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REPORT of the SECRETARY OF AGRICULTURE 1968

Agriculture in Transition

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UNITED STATES DEPARTMENT OF AGRICULTURE

Department of Agriculture
Washington, D.C.

THE PRESIDENT
The White House
Washington, D.C.

Dear Mr. President:

It is my privilege to present to you this report entitled, "Agriculture In Transition," an account of the services rendered by the U.S. Department of Agriculture to our farm and rural people and the entire Nation during the decade of the sixties with particular emphasis on 1968.

As the report shows, 1968 continued our significant progress toward the Department's major goals.

It is with pride in the dedicated and skillful public servants who work with me in the USDA that I submit to you my final annual report as Secretary of Agriculture.

ORVILLE L. FREEMAN
Secretary of Agriculture

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January 1969

AGRICULTURE IN TRANSITION

"The well-being of a people is like a tree and agriculture is its root."

OLD CHINESE PROVERB

American agriculture—like the whole of the American economy and society, and indeed the entire world—is in a state of transition.

Change—breathless, all-encompassing, explosive change—is the motif of our time.

During the past 8 years our endeavor has been to assist farmers and their associates in agribusiness to bend change, adjust to change, and use change for the advantage of agriculture and all of America.

This is the scope of this report. What were the problems of change as we saw them? How did we adjust to them? What progress has been made? Where were we 8 years ago, and where are we today? And being where we are, what now should USDA be doing to carry on the transition to a better future?

Until a relatively few years ago there would have been little disagreement, if any, over the statement that agriculture is our most basic industry.

Almost instinctively, it seemed, people agreed with the Chinese proverb quoted above.

Even as recently as 30 years ago, this attitude still prevailed. One out of four of our people lived on a farm. Throughout rural America agriculture was the great employer. Most of our national leaders had a farm or farm-rural background.

Today most Americans hold quite a different concept.

Long years of blaming agriculture for producing surpluses and accepting subsidies have led many to regard the farmer as a failure. The prevalent opinion is rather like that once expressed by Charles Dudley Warner: "Blessed be agriculture! If one does not have too much of it."

Only about 5 percent of our people now live on farms. Only one person is on a farm today for every three that were there 30 years ago.

Consequently, some people say: "Agriculture is a declining industry—a dwindling influence in national and world affairs." And the unspoken corollary is that the Nation no longer needs to pay much attention to the well-being of U.S. farmers.

They could not be more wrong—on both counts.

U.S. agriculture is *growing* in importance, not declining. Not only is it still the keystone of American abundance, its role in the world has never been so vital as now. Never has there been more reason for painstaking attention to the needs and problems of our farmers and our rural people.

Our agriculture has made, and continues to make, at least six specific contributions of major importance to America's economy of abundance.

Historically it has been and still is a multiplier of the Nation's manpower. The average U.S. farmer can now produce as much before breakfast as he did in a full day 30 years ago.

He supplies abundantly the food and fiber needs of 45 persons—compared with 26 persons in 1960 and 10 persons 30 years ago.

This continuing rise in productivity not only makes it unnecessary for more people to enter agriculture to supply our growing food and fiber needs—it enables the actual number of farmers to be steadily reduced. Actually, the scientific and technological progress of our agriculture has been so rapid that the economy has found difficulty in adjusting to it. Nevertheless, agriculture's laborsaving contribution continues to be a cornerstone of our economy of abundance.

Agriculture's progress has resulted in sharply lowered food costs relative to income. This both reduces inflationary tendencies and provides a larger market for industry. U.S. consumers in 1968 paid out only 17 percent of their disposable income for food—and most of this went for marketing and other services. Only about 4 percent of consumers' disposable income went to U.S. farmers for farm produced foods.

In 1960 consumers spent 20 percent of their disposable income for food—in 1950, 22.2 percent—in 1929, 23.4 percent.

If we had paid for food in 1968 the same proportion of income as in 1960, we would have had $17 billion less to spend on other things.

Agriculture sustains the entire national economy by its steadily growing purchases of goods and services—despite the rapid drop in farm population. Farm gross income in 1968 exceeded $51 billion. Of this, farmers spent $36 billion for goods and services to produce crops and livestock. Most of the remainder went for the same things that city people buy—food, clothing, drugs, furniture, appliances, and other consumer products and services.

In 1967, farmers spent about $4.8 billion for new farm tractors and other motor vehicles, machinery, and equipment—providing jobs for 113,000 employees.

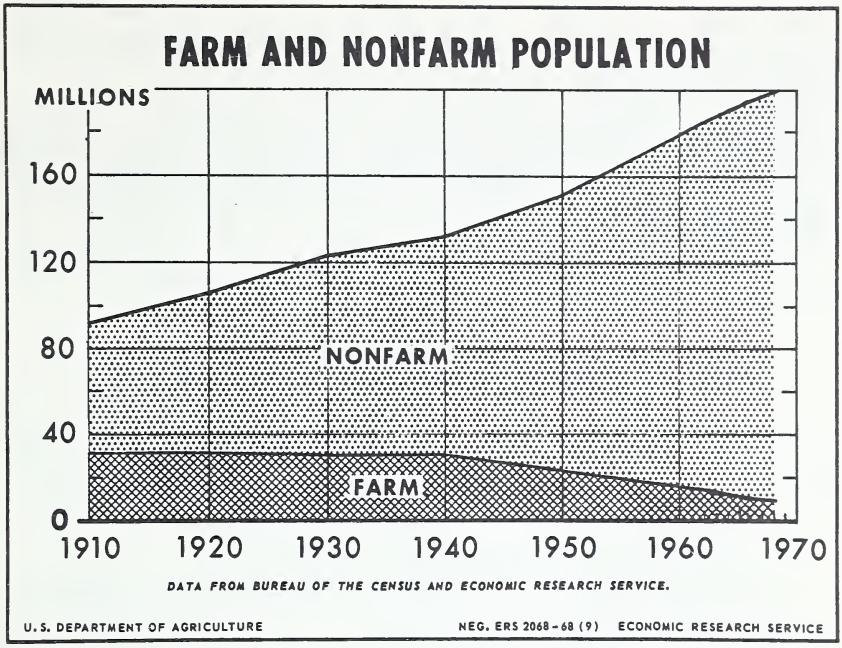
They annually purchase products containing about 6½ million tons of steel and 360 million pounds of rubber—enough to put tires on nearly 7½ million automobiles.

They use more petroleum than any other single industry—and more electricity than all the people and industries in Chicago, Detroit, Boston, Baltimore, and Washington, D.C., combined.

Rapidly growing exports of U.S. farm products bulwark our economy of abundance. Our annual exports are equivalent to the production of one out of four U.S. harvested acres. They provide about 1 million jobs in such fields as the manufacture of machinery and fertilizer, the transportation industry, and storage, packaging, and processing. They bring back to the United States many of the dollars that move out because of defense and aid, tourism, and U.S. investment abroad.

The net favorable balance of agricultural trade currently makes up over 50 percent of our country's total favorable balance of trade in all products—even though agricultural shipments make up only 22 percent of total exports.

U.S. agriculture is the world's number one weapon in the war against hunger. Not only is it the world's biggest exporter of food and fiber, it is also the world's biggest storehouse and factory for agricultural


FARM AND NONFARM POPULATION
MILLIONS
160
120
80
40
0
NONFARM
FARM
1910
1920
1930
1940
1950
1960
1970
DATA FROM BUREAU OF THE CENSUS AND ECONOMIC RESEARCH SERVICE.
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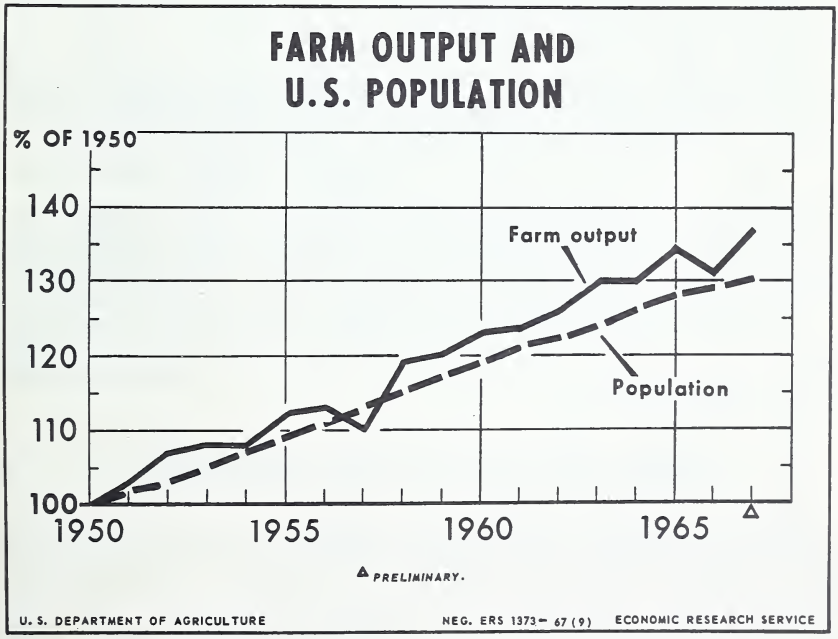

FARM OUTPUT AND
U.S. POPULATION
% OF 1950
140
130
120
110
100
Farm output
Population
1950
1955
1960
1965
△ PRELIMINARY.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 1373-67 (9) ECONOMIC RESEARCH SERVICE

knowledge. And research and knowledge will be the ultimate answer to the world food problem. Unless we help the less developed countries to learn to feed their own growing populations, the world could one day run out of food.

Finally, agriculture is still the keystone of revival in rural America. Even though less than one in five of our rural people lives on a farm, agriculture is still the biggest single industry, the biggest single source of employment, the biggest single producer of income in Countryside USA.

America's age of abundance is obviously the end product of many converging forces. At the base and providing a foundation for all, however, is our productive and efficient agriculture.

NEW POLICIES FOR THE AGE OF ABUNDANCE

In view of agriculture's basic role in a healthy American economy, the grave problems confronting agriculture as the Nation entered the decade of the 1960's were highly alarming. These problems were:

1. A progressive imbalance in agricultural production.
2. A heavy and mounting burden of agricultural surpluses.
3. A devastating drop in farm income.
4. A widespread deterioration of economic, social, and cultural opportunity in rural communities.

Our immediate goals, therefore, were:

1. To achieve a balanced abundance of food and fiber.
2. To reduce the surpluses to manageable proportions.
3. To raise farm income.
4. To begin to revitalize rural America.

"Speaking Up" for Agriculture

These goals, it was obvious, would not be easily reached. Fundamental to their achievement was an adequate understanding by the American people of the contributions, problems, and the needs of U.S. agriculture. But we were shocked to find a public understanding gap of mammoth proportions concerning agriculture.

With farm population declining not only proportionately but numerically, and with agriculture's "political muscle" steadily weakening, increased public understanding was more essential than ever before if sound farm policies and programs were to be provided.

One of our foremost concerns from 1961 to the present, consequently, has been to "speak up" for the American farmer and thus to promote better public relations for agriculture among both nonfarm people and farmers themselves.

REORGANIZATION OF THE DEPARTMENT

No less fundamental to the achievement of our goals was a more effective coordination of all USDA activities. The Department in 1961 resembled a kind of ducal fiefdom in which the various agencies, operating with a great deal of independence, all competed with one another. Each agency had its own mission, or missions, assigned to it by Congress and jealously guarded against encroachment.

The Department needed to be reorganized into a cohesive whole.

Director of Agricultural Economics

In one of our first moves toward this goal we reorganized the Department's economics services. Statistical reporting and economic research activities, formerly scattered throughout the Department, were brought together in a Statistical Reporting Service and an Economic Research Service under a Director of Agricultural Economics. The new setup provided a channel for a better, more orderly, and expeditious flow of information about the entire agricultural economy.

Assistant Secretary for International Affairs

American agriculture is increasingly affected by world conditions—such as the agricultural policies of the European Common Market. Our agriculture also has a growing leadership role in the war on world hunger. We established the position of Assistant Secretary for International Affairs to coordinate all international aspects of the Department's work, including its relationships with other Government agencies and private organizations in the international area.

International Agricultural Development Service

Because of the increasing awareness of agricultural development needs in the free countries of Latin America, Asia, and Africa, USDA relationships with other Government agencies, such as the Agency for International Development, were becoming more important. To assure the most effective use of USDA resources in providing urgently needed technical assistance and agricultural training for the developing nations, we established the International Agricultural Development Service. IADS both coordinates USDA activities concerned with international agricultural development and maintains effective relationships with U.S. and international organizations, public and private, in planning and carrying out technical assistance.

Office of Management Services

To apply manpower, especially professional skills, more effectively and to reduce costs, we centralized the supporting services of 17 of the Department's smaller offices and agencies in an Office of Management Services. OMS performs budgetary, accounting, personnel, procurement, and related functions for the agencies and offices it serves.

Field Consolidations

The vast majority of USDA employees are stationed outside Washington and management of programs in the field had been highly decentralized. To provide "one-stop" service to the public and to take advantage of the economies of centralized management and housekeeping, we initiated a program to consolidate field offices. By 1968 we had consolidated 31 State agency field offices and over half of our county offices.

Office of the Inspector General

To enable the Secretary's office to review much more completely, and supervise and coordinate more effectively, the internal audit and investigation activities carried out in each major agency of the Depart-

ment, we established an Office of the Inspector General. OIG gives the Secretary of Agriculture "eyes and ears" he never had before and assures higher standards of performance.

Rural Community Development Service

To promote a more effective use of public and private resources in revitalizing rural America and achieving better rural-urban balance, the Rural Community Development Service was created. RCDS helps plan and coordinate USDA programs to advance the development of rural areas and takes the initiative in bringing the resources of other public and private agencies and groups to bear on the problems of rural America.

Technical Action Panels

To promote and assist in redevelopment action at the local level, we set up Technical Action Panels. The TAPs, composed of USDA field personnel and other Federal, State, and local government officials, help community development groups plan and carry out local projects using all available public and private assistance.

Director of Science and Education

To supervise and coordinate activities centering on research and extension, which constitute the mainspring of agricultural efficiency, we established the office of the Director of Science and Education.

Consumer and Marketing Service

To improve the effectiveness of our broad consumer oriented and marketing programs we combined these activities of the Department into a Consumer and Marketing Service, and placed meat and poultry inspection in one agency.

Other Actions

In other actions, we established as a separate agency the Packers and Stockyards Administration to enforce the Packers and Stockyards Act. We reorganized the Agricultural Stabilization and Conservation Service, eliminating the confusion between line and staff responsibility. We transferred the Agricultural Conservation Program to the Agricultural Stabilization and Conservation Service where it logically belonged. Since the General Sales Manager and the Barter and Stockpiling Divisions are principally concerned with overseas sales and exchanges, we transferred them from ASCS to the Foreign Agricultural Service.

MANAGEMENT IMPROVEMENT

Along with the overall reorganization, and in order to make the reorganization fully effective, we stressed adoption of modern management techniques, including the use of data processing.

Office of Management Improvement

We created an Office of Management Improvement and gave it the specific function of seeking ways to modernize management through new techniques. OMI provides general direction, leadership, and coordination in the Department for management appraisals, systems design, automatic data processing, operations research, and all related management techniques. The objective is to achieve maximum effectiveness and economies through sound and imaginative management policies.

MODE

In 1961 we took a big stride toward a new approach to management through a project called MODE—Management of Objectives With Dollars Through Employees. A centralized computer was set up in the Department and current information on all USDA employees was fed into it. MODE's first output was an automated payroll and bond issuance system.

Later, we began to produce all of our personnel statistics and reports on the computer—at a fraction of the cost of a manual system. This enables us to see the trends in the average age of our employees and their length of service—forecast future retirements—analyze promotion activity—and predict the rate at which USDA will have to recruit and train employees.

MOHR

Our growing fund of information about personnel has been further refined through a subsystem called MOHR—Management of Human Resources. This is a cumulative inventory of employees' skills gained through education, training, work experience, and work performance in recent years. It enables us to identify available talent quickly—no one is hidden in the woods—and it provides an inventory of capabilities for special projects and new programs.

The Department uses ADP in many other areas besides personnel. Computer program development and statistical analyses have resulted in new "forecasting models" and improved forecasts. Information systems are under development in regulation and monitoring of pesticides, research projects, extension, forestry, and the agricultural library.

Cost Reduction and Operation Improvement

As another step toward better management, we established and gave high priority to a Cost Reduction and Operation Improvement Program. Our reports show a grand total of savings amounting to $1.6 billion from fiscal 1965 to fiscal 1968. What this means is that the work done by USDA during these 4 fiscal years would have cost taxpayers $1.6 billion more—or an average of $1.6 million every working day—if these cost cutting actions had not been undertaken.

Recognition and training have made this one of the most effective cost reduction programs in the Federal Government. In 1965, Vice President Humphrey presented 19 USDA employees and units with Presidential Citations. Since then there have been three Secretary's Special Merit Awards Programs recognizing 108 outstanding accom-

plishments. On two of these occasions, President Johnson personally toured the exhibits and presented the awards to the recipients.

"PEP" Staff

An extremely important part of our management improvement program is program evaluation and planning. To help provide more and better information for management, measure program performance, and guide us in doing our work faster, better, and less expensively, we established the Planning, Evaluation, and Program Staff. This small group, sometimes called the "PEP Staff," serves as the focal point within the Department in finding better ways to achieve our program objectives, set performance targets, and report on where we are and what it is costing us. Analyses prepared by the PEP Staff are of inestimable value in establishing the priorities so essential in a sound budgeting process.

Personal Communication

We have also promoted good management and a sense of common purpose in the Department by special emphasis on personal communication. Since 1963, we have held a large staff meeting every morning, 15 minutes before the official start of the work day. This is a gathering of top men and women from the major USDA agencies, plus members of my own staff.

These meetings give all of us daily access to one another. The Secretary's office has the opportunity to report on basic policy decisions and on progress toward our goals. The meetings also give the top USDA managers a "crack" at the Secretary's office each day—plus the opportunity to compare notes, get better acquainted, and thresh out other problems.

Oldtimers in the Department say these daily staff meetings have done more to coordinate USDA into a unified whole than any other single innovation they can remember.

Agriculture/2000

Perhaps the most critical innovation to fuse the entire Department into one cohesive whole was taken in 1966 when we began to shape the Agriculture/2000 concept. This was an effort to establish major Department objectives which would be achieved by stimulating in each agency a common sense of direction, a mutual sharing of resources, an awareness of total Department purpose.

Agriculture/2000 looks both to the present and to the future in terms of six major, mutually reenforcing, USDA missions. They are:

Income and Abundance—to achieve a sustained and balanced agricultural abundance with fair income for farmers.

Growing Nations, New Markets—to provide new and expanded foreign markets for our food, feed, and fiber, and to help growing nations win the war on hunger.

Communities of Tomorrow—to build livable and healthy communities of tomorrow by revitalizing rural America and restoring rural-urban balance.

Resources in Action—to conserve and improve our land, water, and timber, and to activate these resources fully for the benefit of all our people.

Science in the Service of Man—to use agricultural research and extension to the fullest extent for human advancement.

New Dimensions for Living—to expand the quality of American living and specifically to wipe out undernutrition in the land.

Every agency in the Department helps directly to carry out one or more of these missions. Most agencies serve several missions; some are directly involved in all six.

To coordinate agency contributions to these overall goals we established six task forces, each under the chairmanship of an appropriate Assistant Secretary. The task forces have specific responsibilities to share in formulating policy, in coordinating and evaluating goals, and in helping to carry out USDA's educational and informational efforts. They are enjoined, however, against interfering with the direct operating responsibilities of any agency as assigned by the Congress.

The results of the Agriculture/2000 concept and the guidance provided by the task forces have far exceeded our expectations. Our annual budget and 5-year forward plans are now organized into programs and program elements keyed to the six missions. They are reviewed by the task forces in their progressive stages. Coordination is greatly strengthened. Resources are better used. Focusing on goals rather than only on functions has made it possible to establish budget priorities more effectively.

A new sense of purpose and direction has spread throughout the entire Department. USDA personnel have no less pride than before in their own agencies but they have a great deal more understanding and pride concerning their place and that of their agency in the Department's missions as a whole.

The results are improved USDA efficiency with enlarged benefits for farmers, consumers, and the agriculturally oriented business community.

EQUAL OPPORTUNITY FOR ALL CITIZENS

As an agency of the American people, the Department has the responsibility to serve *all* the people—to be open to *all* the people—and to conduct its business so that "*every citizen* shall receive fair and equal treatment and that there be no discrimination in any of our activities or programs." This is the declared policy of the Department.

We have given the highest priority to carrying it out and to achieving equal opportunity at every level in the Department.

Full Program Participation Undertaken

The provisions of the Civil Rights Act of 1964 applied primarily to only 10 of our agencies. I directed *all* USDA agencies, however, to take steps to encourage and increase participation by minority group persons on an equal basis in all of our programs.

Specifically, I directed that action be taken:

1. To encourage minority group participation in both the administration and the benefits of local group activities.
2. To eliminate all remaining segregation and discrimination in office space and related facilities at field installations.
3. To establish procedures to enforce nondiscrimination assignments so that all personnel would serve all clientele equally without regard to race.
4. To establish methods of evaluating effective procedures to bring about full participation for all in Department programs.

In response to these directives, the Department has moved ahead aggressively and extensively on two job opportunity fronts. Internally, we sought to eliminate discrimination in personnel hiring prac-

tices. Externally, we closely supervised equal employment opportunity compliance undertaken by contractors doing business with the Department.

Attacking Internal Discrimination

The Civil Service Commission, which has Government-wide responsibility for the Equal Employment Opportunity Program, and the Department have issued regulations implementing equal employment opportunity. The Department and each agency in it are required to prepare annual plans for progress to promote equal opportunity without regard to race, color, religion, sex, or national origin. These plans provide a specific action program for each agency and field office tailormade to fit local problems and situations. Regular reports on the progress made must be submitted through the agency to the Office of Personnel and the Assistant to the Secretary for Civil Rights.

With the Civil Service Commission we conduct regular continuing reviews of agency programs to determine their adequacy and effectiveness. During fiscal 1968 the Program Evaluation Staff of our Office of Personnel also conducted headquarters reviews of the agency programs.

The regulations provide a procedure for receiving and prompt, orderly processing of complaints about discrimination. Within the Department all complaints are investigated by the Office of the Inspector General. If the matter cannot be settled informally, the complainant has the right to a hearing and a decision by the Equal Employment Opportunity Officer of the Department. This decision is appealable to the Civil Service Commission Board of Appeals and Review.

Combating External Discrimination

So far as outside contracts are concerned, we administer equal employment opportunity compliance essentially through site reviews at facilities of private contractors employing 50 or more people.

In accordance with Department of Labor and USDA regulations, we conduct regular compliance reviews of each contractor's total employment practices and the effect of his operation on community problems of minority employment. About 2,000 contractors doing business with us are currently covered by this program.

Significant strides have been made as a result of these activities.

Program Participation

For the first time in history, a Negro has been elected Chairman of an ASC County Committee. Seven minority group persons served as ASC State Advisory Committeemen in 1968; none served in 1965. We had 46 ASC State Advisory Committeemen in 1968; none in 1965. We had 508 ASC Community Committeemen and Alternates in 1968, compared with 80 in 1965; and there were four times as many full-time ASC County Office minority group employees in 1968 (422) as in 1965.

Minority group persons have steadily received more Farmers Home Administration loans. FHA loans to Negroes in the 16 Southern States increased from 10,985 in 1964 to 21,636 in 1968.

Members of minority groups in many areas constitute a larger percentage of the FHA County Supervisor's caseload than their proportion of the population as a whole. In 88 selected counties of 14 Southern States, Negro families make up 42.2 percent of the population. They received 56.2 percent of all FHA rural loans to individuals in 1967. Negro farm operators constitute 38.7 percent of the total farm operators in these counties. They received 57.2 percent of FHA farm loans.

Expanded Employment Opportunities

Employment of minority group persons by USDA has climbed appreciably. In 1964, out of 91,467 full-time Department employees, 4,293, or less than 5 percent, were members of minority groups. At the end of 1967, more than 8 percent of our 90,504 employees were from minority groups.

In 1964 our field offices had 79,384 employees of whom only 2,764 were from minority groups. In 1967, the respective figures were 77,640 and 5,032. Minority employees almost doubled. In Washington in 1964, 1,529 or 12 percent of our full-time staff of 12,083 were members of minority groups. In 1967 we had 2,428 minority group employees—18 percent—out of a total of 12,864.

We have issued regulations requiring the Cooperative Extension Service to prepare plans which will accomplish full integration. The regulations provide for effective appeal to the Secretary of Agriculture from any Extension Service or land grant institution where a complainant feels he or she has been unfairly treated.

Negro professionals and nonprofessionals have been merged into all the previously white Cooperative Extension Services. Offices which formerly were separated into white and nonwhite are now housed under the same roof. While much less progress has been made in merging along functional or work area lines, we are striving toward that goal.

Affirmative action based on contract compliance reviews in 1966 and 1967 of 45 contractors resulted in an increase in the employment of Negroes from 2,860 to 3,036. White collar and skilled employees increased by 216 but unskilled employees decreased.

Progress Toward Nondiscrimination in Funds

Special efforts in 1967 placed $283,000 of cooperative research funds in 16 Negro land-grant colleges. This support is being continued on an annual basis. Additional research contracts and grants by USDA research agencies to Negro colleges totaled $158,000 in 1967.

We have started proceedings in 50 counties aimed at terminating Forest Service revenue-sharing payments due to noncompliance with civil rights.

This is significant progress. Still it is less than the needs require. To push ahead at a satisfactory level until the goal of equal employment opportunity is reached, additional funds and resources will be needed.

LEGISLATION SETS STAGE FOR PROGRESS

In our complex society progress depends largely on programs—and programs are provided by legislation. There are two standards by

which to measure legislation. It must be workable and passable. The order can be reversed but both requirements must be met. During the past 8 years the executive branch recommended and the Congress debated and approved a sum total of workable and passable legislation for USDA far-ranging programs—farm and nonfarm—that is unique in American and world history.

It set up voluntary farm programs which enabled farmers to act together and thus effectively gear their production to demand. It improved and broadened foreign trade and aid programs. It set in motion vigorous new efforts to conserve and improve natural resources and to revive rural America. It expanded research and extension. It took big strides to narrow the nutrition gap and insure food wholesomeness.

The voluntary commodity programs began with the Emergency Feed Grain Program of 1961—a turning point in the battle to stop the surplus buildup, and end stagnation in agriculture.

This was followed by the Agricultural Acts of 1961 through 1964 which established programs for wheat, feed grains, and cotton, and extended the wool and the special milk programs.

Then came the historic Food and Agriculture Act of 1965, providing realistic programs for the major crops through 1969—and later extended through 1970.

Outstanding resource programs were provided by the various Food and Agriculture Acts, the Land and Water Conservation Fund Act, the Wilderness Act of 1964, the Federal Water Project Recreation Act of 1965, the Appalachian Regional Development Act of 1965, and the amended Watershed Protection and Flood Prevention Act.

To help revitalize rural America, Congress set up new and expanded programs for housing, community water and sewer systems, and other local facilities, culminating in the Housing and Urban Development Act of 1968.

In striving to expand foreign trade and aid, Congress extended and greatly improved Public Law 480.

To promote agricultural research and education, legislation was enacted to help the States finance new facilities at agricultural experiment stations for critically needed work on pesticides, nutrition, animal and plant disease control, and environmental pollution. Grants were provided for a new Cooperative Forestry Research Program. A National Program of Research for Agriculture, developed jointly by the States and USDA, is underway.

To help us carry out our mission of raising the quality of American life, Congress passed the Food Stamp Act of 1964, the Child Nutrition Act of 1966, expanded the School Lunch Program, extended the Special Milk Program with the Armed Forces and Veterans' Hospitals, and passed the Wholesome Meat Act of 1967 and the Wholesome Poultry Products Act of 1968.

The programs provided by these various laws interlock to form a remarkable combination of services to farmers, consumers, agribusiness, and the whole Nation. They are a central factor contributing tremendously to the upswing and progress of U.S. agriculture in transition.

We have written this report with recognition that different readers have vastly different appetites for the details of agricultural policy and programs. In the pages that follow we discuss in broad terms each of the six major USDA missions; the problems, progress, and guidelines for the future. These sections can stand on their own merits.

For those readers, however, who desire more detail, an addendum is attached to each of the broad discussions. Besides providing program detail, the addenda emphasize USDA activities in the 1968 fiscal and calendar years.

The reader, accordingly, may indulge himself according to his interest.

INCOME AND ABUNDANCE

"We cannot afford to lose that preeminently typical American, the farmer who owns his own farm."

THEODORE ROOSEVELT

Looking back after 8 years of growth and progress, it is difficult to recall the full gravity of the situation agriculture faced early in 1961. The core of the problem was the American farmer's fantastic ability to produce more and more for a highly inelastic market.

In 1961, agriculture was confronted by a nightmare: The prospect of half a billion bushels of grain rotting on the ground.

There were 2 billion bushels of corn in storage—plus enough grain sorghum to carry us for a full year and a half—plus more than enough wheat to fill our domestic needs for 2 years.

A weakening dike of price support was all that kept this ocean of grain from breaking loose and ravaging the agricultural economy.

Existing programs virtually guaranteed that the situation would worsen—unless decisive actions were taken. If production in 1961 continued at 1960 levels, we would add up to 400 million bushels of surplus feed grains to our already almost uncontrollable stocks.

Grain was stored in every conceivable space—even on ships. New bin sites and new elevators dotted the landscape everywhere. Storage costs were a national scandal—costing taxpayers more than a million dollars a day.

There was just no place for another half billion bushels of surplus grain to go—except on the ground.

The consequences for grain producers, livestock farmers, the grain industry, and rural America in general appeared to be disastrous.

Farm programs—the bulwark of farm income stabilization—simply were not dealing realistically with the situation. To be specific, the wheat carryover, which had been only 256 million bushels in 1952, was 1,411 million bushels. The feed grain carryover—20.1 million tons in 1952—was 85 million tons.

The Government actually *owned* roughly $6 billion worth of farm commodities.

As farmers produced more, their income became less. Farm net income was $14.1 billion in 1952. In 1960 it was only $11.7 billion, a drop of 17 percent.

Beginning in 1961, a series of voluntary production adjustment programs were hammered out to replace the ineffective programs under which the surpluses had developed.

From the Emergency Feed Grain Act of 1961 through the series of comprehensive Agricultural Acts affecting many commodities, programs were tested—sometimes rejected—and then improved to better ment the country's needs. The basic pattern has been to support prices at or near competitive world levels, and to provide income payments to producers who reduced crop acreages in order to limit production.

We made a concerted effort and considerable progress to integrate previously separate programs. The programs we now have—commodity, foreign aid, domsetic food, conservation—interlock to balance supply and demand and, at the same time, provide a remarkably effective combination of services to farmers, consumers, the poor, indeed, the Nation as a whole. The total program is much greater than the sum of its separate parts and is unique in the Nation's history.

THE UPSWING IN AGRICULTURE

The upward turn in the farm economy during the past 8 years was influenced by many factors. High consumer incomes have had a beneficial effect on farm income. Rising farm income has enabled farmers to increase their efficiency and thus benefit consumers. Encouragement of exports has resulted in record demand for U.S. farm products abroad. But most of all, progress was made through a dedicated effort to bring about improvement as is evidenced by the legislation enacted.

Net farm income in 1968 is estimated at $15 billion, 28 percent higher than in 1960. During the past 8 years net farm income has averaged $13.7 billion. This is nearly $1.8 billion a year more than the average of the preceding 8 years.

Net income per farm this year is estimated at $4,900—about $2,000 more than 1960.

Farm people are also earning more from off-farm jobs. The total per capita spendable income—income after taxes—of farm people in 1960 was about $1,100. This year we estimate it at $2,160, or roughly double.

In 1960 the average person on a farm had only a little more than half as much income as the average nonfarm person. This year he has about three-fourths as much. The income gap between farmers and nonfarmers has been cut in half.

From January 1961 to January 1968, owners' equities in agriculture increased by more than $55 billion or $18,000 per farm. Even after allowing for inflation, the improvement in the balance sheet of agriculture during these years has been very substantial.

Farmers are obviously moving closer to economic equality with nonfarm people. The following table contrasts 1960 with 1968.

	1960	1968 preliminary	Change from 1960 to 1968 (percent)
Realized gross farm income (billion dollars)	36.8	51.1	34
Production expense (billion dollars)	26.4	36.1	37
Realized net farm income (billion dollars)	11.7	15.0	28
Number of farms (thousand)	3,962	3,059	−23
Realized net income per farm (dollars)	2,962	4,900	65
Per capita disposable income:			
Farm population—from all sources (dollars)	1,100	2,160	96
Nonfarm population (dollars)	2,017	2,970	47
Farm as a percent of nonfarm	54.5	73	+34
Inventory of commodities owned by CCC (billion dollars)	6.0	.9	−85

1968 PRODUCTION AT ALL-TIME HIGH

Although American farmers have continued to increase their productivity faster than almost any other segment of the economy, production is now well balanced. Between 1960 and 1968 output per man-hour of farm work increased by 55 percent, crop production per acre by 16 percent, and livestock production per breeding unit 14 percent.

Farm output in 1968 was at an all-time high, 14 percent more than in 1960. But it was production geared to demand. Output of demand crops has been adjusted upward, surplus crops downward. Compared with 1960, output of oil crops has increased 81 percent, sugar 62 percent, poultry and eggs 29 percent, food grains 25 percent, meat animals 19 percent, and vegetables 13 percent.

On the other hand, production of a number of commodities which have been in chronic oversupply has been successfully cut back. Cotton production in 1968 was 24 percent below 1960, tobacco was down 12 percent, and milk 4 percent. In the early and middle sixties we successfully cut back production of food grains and feed grains, until the surpluses were eliminated. In 1968, feed grain production was 10 percent larger than in 1960, and wheat output was nearly 18 percent larger, a little more than we had planned because of exceptional weather, but not out of control.

Whereas in the 1950's rising output was accompanied by rising surpluses, in the 1960's rising output was accompanied by disappearing surpluses. This is balanced abundance.

Surplus grain was skillfully moved into use by career employees of the Department. Surplus disposal sales were made on a rising market without disrupting the market or depressing prices. Feed grain prices actually rose during the period of our greatest surplus-disposal sales.

There has been no "cheap food" policy such as some have charged. Our policy in setting price support levels has been clear and simple: *To protect farm income while enabling farm products to compete in the market.* Every price support level in effect today, including payments, is higher than in 1960, and most are considerably higher. Where we have allowed prices to seek market levels for competitive purposes we have protected farm income through direct payments.

Feed Grains

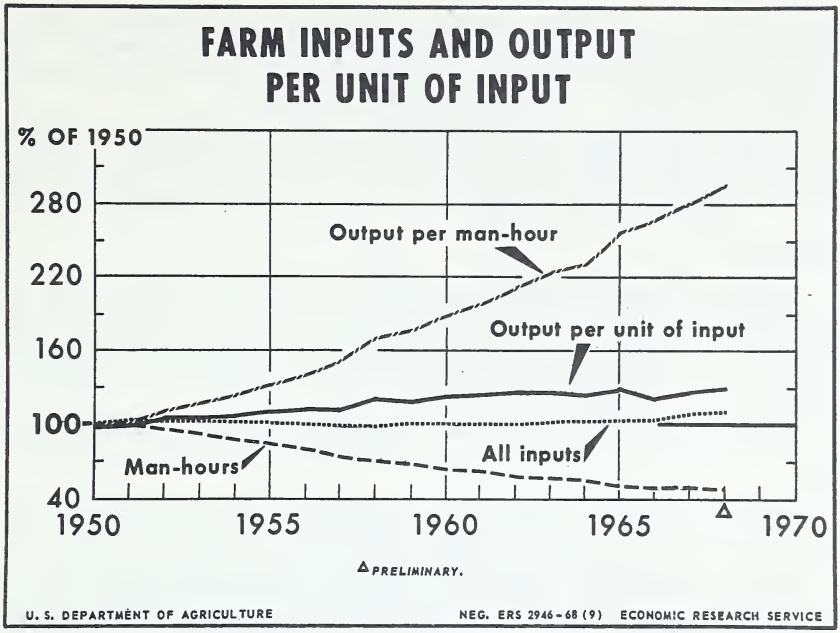
The feed grain carryover in 1968, at 50 million tons, was near a desirable level. Most of it was controlled by farmers. In 1961, most of the feed grain supply was Government owned.

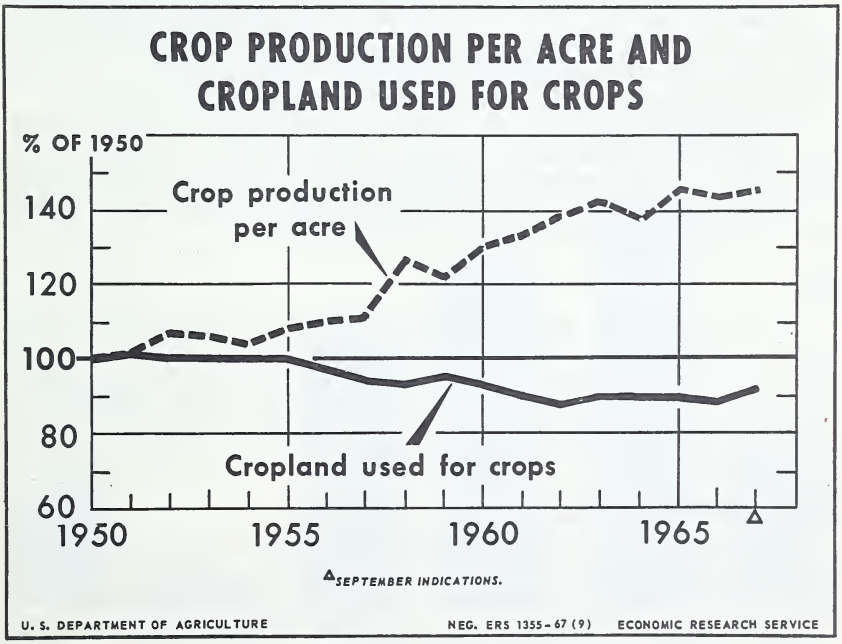
Returns to farmers are up substantially. The total value of the feed grain crop, including diversion and price support payments, was nearly $7.5 billion in 1967. It was less than $5.5 billion in 1960.

The market has also been expanded. Domestic use of feed grains, now over 140 million tons yearly, is about 25 percent larger than in the 1950's. Exports have risen from an annual average of less than 10 million tons in the 1950's to well above 20 million tons.

Wheat

The wheat carryover in mid-1968 was 537 million bushels, a reasonable reserve. Through the wheat certificate program, producers have achieved a long sought goal: Parity for wheat used for domestic food


FARM INPUTS AND OUTPUT PER UNIT OF INPUT
% OF 1950
280
220
160
100
40
Output per man-hour
Output per unit of input
All inputs
Man-hours
1950
1955
1960
1965
1970
△PRELIMINARY.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 2946-68 (9) ECONOMIC RESEARCH SERVICE


CROP PRODUCTION PER ACRE AND CROPLAND USED FOR CROPS
% OF 1950
140
120
100
80
60
Crop production per acre
Cropland used for crops
1950
1955
1960
1965
△SEPTEMBER INDICATIONS.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 1355-67 (9) ECONOMIC RESEARCH SERVICE

consumption. The value of wheat production plus marketing certificates for the 1966–68 period averaged about $2.8 billion annually. This has been exceeded only once—in 1947 when post-World War II needs were at their high.

Wheat exports have boomed, going as high as 850 million bushels in a single year. Since 1960, exports have averaged about 750 million bushels per year, almost 75 percent above the average for the previous 8 years. Commercial sales account for most of the expansion in exports.

Cotton

The cotton surplus, which soared to a record 16.6 million bales in 1965, has been eliminated. Cotton stocks in 1968 were down to about 6.5 million bales. This rapid reduction resulted partly from bad weather, and partly from the diversion of over 12 million acres from production in 1966, 1967, and 1968.

Domestic use of cotton has come back up to 9 million bales or more per year during the past 4 years, following several years of smaller use.

Despite the effect of bad weather, particularly in 1966 and 1967, acreage diversion and price support payments for cotton maintained the net income of producers at around the levels of earlier years.

Synthetic fibers and foreign production threaten the future of cotton and demand a realistic pricing policy in the future. This can be provided under the cotton legislation that is now the law of the land.

Soybeans

To encourage the production needed to meet increasing demands for soybeans, the support price was raised from $1.85 per bushel in 1960 to $2.50 in 1968. The value of our annual soybean crops is now around $2.5 billion, more than double the 1960 level of $1.2 billion. As a cash crop earner for farmers, soybeans are now second only to corn.

Crushing of soybeans for domestic use has increased nearly 50 percent since 1960, while record exports of 270 million bushels for the 1967–68 marketing year more than doubled the export level of 1960.

Soybeans also face a grave threat from synthetics and growing foreign competition for vegetable oil markets.

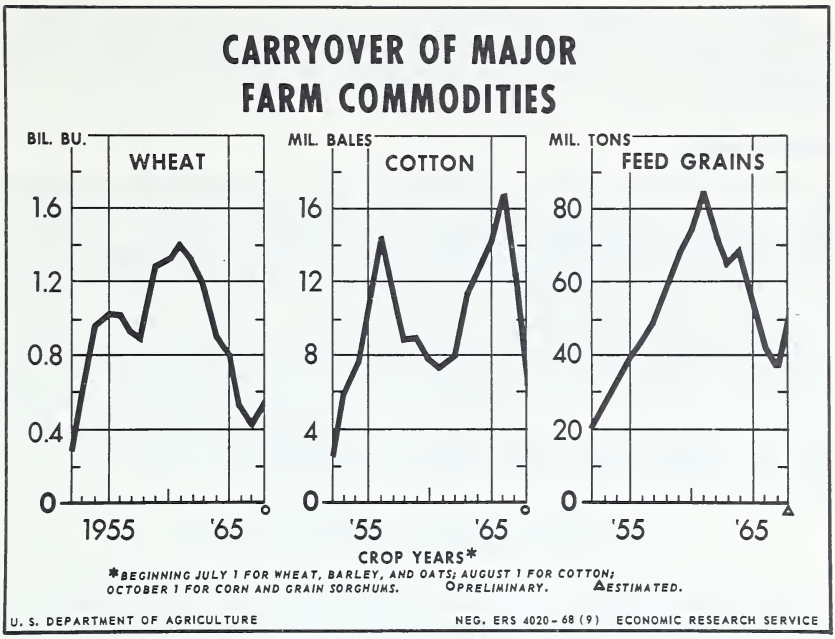
Milk

To make dairying more attractive for farmers caught in an ever tightening cost-price squeeze, we progressively raised support prices for manufacturing milk from $3.40 per hundredweight in 1961 to $4.28 in 1968, a record high. Farm cash receipts from dairying increased from $4.8 billion in 1960 to $5.5 billion in 1966, $5.8 billion in 1967, and a record $6 billion in 1968.

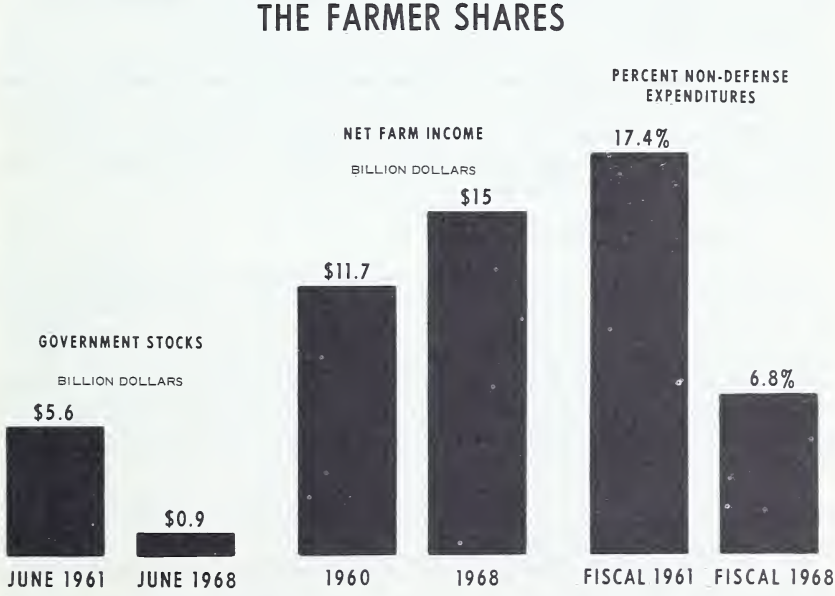
CCC Investment Reduced

The Commodity Credit Corporation inventory and price support loan investment in agricultural commodities was less than $3.2 billion on June 30, 1968—compared with nearly $8 billion in 1961.

The inventory of commodities owned by CCC dropped from $6.1 billion in 1960 to $912 million, the lowest in two decades.



INCOME AND ABUNDANCE



Because of the smaller quantities of commodities owned outright by CCC, storage and handling costs during fiscal 1968 dropped to $75 million, the lowest since 1953. This compares with 1960 costs of $476 million.

USDA Budget

The total budget outlay of the USDA for all its programs, including the nonfarm activities, increased from $5.9 billion in fiscal 1961 to $6.7 billion in fiscal 1968—an increase of about 14 percent, compared with 68 percent for the entire Federal Government. The 1968 budget, however, financed programs that were far more effective than those of fiscal 1961. The 1968 budget also financed at an "adult" level a number of programs that were only in their infancy in fiscal 1961—such as the programs to revitalize rural America. In addition, it financed greatly expanded food sharing programs, consumer activities, and resources conservation. Yet, as a percentage of non-defense outlays by the Federal Government, the total Agriculture budget dropped from 17.4 percent in fiscal 1961 to 6.8 percent in fiscal 1968.

THE CHALLENGE OF THE FUTURE

The progress of the past 8 years has led agriculture into a new era. Farmers and rural people have reached a new plateau from which they can begin to share more fully in the continued economic growth of the Nation.

But most of the conditions which made our voluntary farm programs necessary in the first place are still with us. American farmers still have the capacity to produce more than the market can absorb at a fair price to them. With less than half as much labor, agriculture produces a good 50 percent more than it did 25 years ago.

This is a great economic bulwark for America and the Free World. But it also keeps the farmer and rancher sitting on a powder keg. The U.S. farmer has the ability to overshoot his markets, year after year. This capacity—unique in history—is so great that the individual farmer, one in 3 million, cannot hold the genie in the bottle. No one farmer has a big enough thumb.

The Production Potential

U.S. farmers have the ability at present prices to overproduce for domestic and foreign markets by 10 to 12 percent. About 4 percent of our capacity is now being utilized to produce for foreign aid and about 1 percent for domestic food aid programs. The other 5 to 7 percent is being held in reserve through land diversion programs. We expect this condition to continue, with crop yields increasing faster than needs expand. There will be continued pressure on farm prices and continued threats of new surpluses for the foreseeable future.

Economic forecasts indicate from 50 to 60 million acres will need to be diverted from crop production during the foreseeable future to avoid excessive market supplies.

The challenge is to achieve this diversion by programs satisfactory to farmers and sufficiently economical to be acceptable to nonfarm people.

The failure to achieve an approximate balance between supply and demand would have one or more of the following effects. It would re-

verse the current trend toward parity of income for farm people causing severe hardships for farm families. It would require increased Government expenditures in an effort to redress the income disparity. Or it would gravely weaken the farm economy, and adversely affect the total national economy.

Adequate-Sized Farms

Today about 1 million farms are producing and marketing over 85 percent of our farm products. About 300,000 farmers account for nearly two-thirds of all marketings; 200,000 account for fully one-half.

These are the farmers who are on farms large enough to provide a full-time productive job, and to return a good family living from farming, year after year. These are the farmers who benefit most from price support programs.

Most of these larger farms continue to be family operated (do not use more than 1½ man-years of outside labor) although some lines of production—like cattle-feeding and broiler production—are increasingly concentrated in industrial-type operations, and there have been some recent moves into field crop production by large corporations.

A study done in 1967 showed that our 500,000 largest farmers had earnings over a period of time for their labor, management, and investment equal to returns earned by similar resources in other occupations. Another ½ million farmers were within striking distance of this parity income goal.

The far more numerous small farmers, however, were earning far below parity returns from farming. Farmers with sales of only $5,000 per year earn only 30 to 40 percent of a parity income.

The income position of all farmers, and especially of the larger farmers, rests firmly not only on individual initiative, unbelievable efficiency, and expanding markets, but also on price support programs linked to a supply-demand balance through production restraint.

There are some who still dream of a prosperous and stable agricultue operating in a free competitive market—the kind of market the rest of the economy has largely abandoned. I believe that those dreams will not be realized. Careful estimates make it clear that for the next decade the ability to produce food in the U.S. will increase faster than our population. American farmers face the continuing threat of overproduction and low prices for the foreseeable future.

American agriculture, even though increasingly concentrated, remains inherently unstable. Programs permitting voluntary farmer participation in limiting production to demand have provided stability these past 8 years. Together with expanded demand at home and abroad, these programs have raised farmer income substantially and moved the stored surpluses into markets.

Nearly everyone—even those who look to an early end to all farm programs—agree that an abrupt end would mean disaster on the farm.

For the foreseeable future, there are two basic choices:

- Continue and improve the voluntary, payment-based programs now operating for feed grains, wheat, cotton, and wool, and expand this approach to other sectors as the need arises.

- Go back to mandatory programs as the basis for production restraint preferably on the basis of pounds, bales and bushels instead of retiring acres.

Both approaches are workable. The second would be far less costly so far as budget expenditures are concerned.

But farmers have rejected the mandatory program approach for the grains, and it is no longer a practical option in that largest sector of our agriculture. Further, the price support levels which have been associated with mandatory programs would weaken our competitive position in world markets.

The real choice, then, lies with the pattern established these past 8 years. These program principles deserve to be preserved and strengthened:

- Effective production adjustment, with enough administrative discretion to adapt quickly to year-to-year changes in the agricultural situation. As a part of this approach, annual programs should be supplemented by long-term contracts under authority of the 1965 Cropland Adjustment Program. This sound program is authorized but has not been funded by Congress for the past 2 fiscal years.
- Price supports at competitive levels, to keep and expand our domestic and foreign markets, thereby limiting the role of the Government as a market for farm products.
- Direct payments geared to farm income objectives and to production adjustment requirements. Here, too, some administrative flexibility is essential to meet changing conditions. Variations in the weather worldwide will continue to sharply affect the level of supplies. Present forecasting methods make it difficult to forecast supplies as much as 18 months ahead with accuracy. Fair income to farmers, and payments at a level necessary to "rent" the necessary level of acres out of production should determine the payment levels.
- A Food Bank or security reserve should be authorized specifically by Congress, as proposed in recent years.
- Authorize farmer bargaining as a technique to stabilize sectors where price support and payment programs do not apply, and to supplement and replace existing programs in the future. Farmer bargaining, either for price or nonprice terms of trade, is the only process where farmers can again exert some influence on the terms and conditions under which they will market their product. The potential for exercising some "marketing muscle" is only beginning to be recognized. Fair and workable laws should be enacted to insure the farmer equal status within a food marketing system where economic power grows more concentrated, if the competitive marketplace is to be a valid concept.

These general program guidelines, geared to future conditions, can move farmers to parity incomes in the 1970's if they are fairly and efficiently administered.

Inadequate Farms—Separate Problem

A second major problem is the widening gap between the few relatively large and the many smaller farms with respect to income and ability to earn income. Today about 2 million farms (over two-thirds of the total number) are producing and marketing only 15 percent of all farm products.

People on these inadequate-sized farms are helped only marginally by balanced production and higher prices. They produce so little for market that any gains in farm income still leave them far short of an adequate income. Their income problem, consequently, must be treated separately from that of the adequate sized farms. Basically the small farm problem is a long term structural problem of the entire economy.

It is significant that the *total* income, farm and nonfarm, of families on smaller farms increased at a comparable rate to the total income of families on larger farms these past 8 years. Families on these smaller farms have more than doubled their earnings from *nonfarm* sources since 1960. This is commendable progress, but the fact still remains that small farmer income is sharply inadequate.

Increased emphasis must be placed on programs to assist the less-than-adequate-sized farms. Since technological progress gives larger farmers added advantages, there is a continuing need to shift available funds from activities primarily benefiting larger farmers to those benefiting farmers faced with severe problems of adjustment.

There are two separate but related avenues to effectively tackle this problem.

(1) With assistance, some of these farmers can attain operations of adequate size. This will not be possible for many but for some it is a realistic alternative. Reorientation and strengthening present programs—farm operating and ownership credit, managerial and marketing assistance and conservation assistance—have contributed materially to the accomplishment of this goal. Over 200,000 family farms have increased to adequate size since 1960. Special managerial and enterprise technical assistance programs with adequate credit offer promise for this group of operators. Cooperatives can play an increasingly important part in building small farmers up to adequate size operations.

(2) For many farmers of inadequate-sized units, the greatest promise is employment—either part-time or full-time—in the nonfarm sector. Many have already embarked on this course. Three-quarters of the total income of these smaller farm households now comes from nonfarm sources. Families on the smallest farms, with less than $2,500 annual farm sales, receive 85 percent of their income from off-farm sources.

This adjustment process can be facilitated:

- The creation of more nonfarm job opportunities in areas of high rural unemployment and underemployment is possible and feasible. The trends of the early 1960's are encouraging, but much greater effort is called for.
- A vigorous and fully employed national economy is, of course, essential.
- Accelerated job training and counseling is also needed.
- More effective employment information linking men and jobs is equally essential.

Among farm families on small farms, we find some 400,000 where the operators are 45 years of age and over, with less than a 9th grade education, and family incomes from all sources below the poverty level—less than $3,000. This is often referred to as the "boxed-in" group.

Men beyond 45 years, lacking education and off-farm experience, have little opportunity for off-farm employment at satisfactory wage levels. A vigorous reorientation and expansion of existing programs is needed for these men including:

- Highly intensive farm management assistance.
- More intensive homemaker assistance.
- Farm operating loans.
- Loans to help establish small nonfarm enterprises.
- Strengthened cooperatives adapted to their needs.

The opportunity for small farmers to raise hogs or cattle for market is tremendous. One Southeast firm, Southern Railway, has demonstrated that a farmer, using technical assistance available from the Department and Cooperative Extension Service, can raise the offspring of 20 sows to slaughter weights, gross $15,000 a year, and net $7,000. It is fortuitous that this opportunity has been demonstrated where small farmers need it most—the Southeast.

The missing ingredients are credit and management help. Small farmers need credit not only to wean livestock but to feed livestock until they're ready for market. Farmers Home Administration should have unlimited authority to insure such loans for at least 2 years to get a good start if production credit associations, banks, and other lenders are unable to make them on any other basis.

For men over 65 years of age a more adequate and compassionate system of income maintenance is overdue.

Role of All-Risk Crop Insurance May Increase

There is a need for continuing and improving all-risk Federal Crop Insurance. Its role could increase considerably if insurance were to be extended to many crops not yet adequately covered.

Assuring Future Agricultural Production Capacity

In view of current production capacity and the progress farmers are making in productivity improvements, budget expenditures on programs to maintain needed future productive capacity have been relatively stable in recent years.

We have been meeting our growing domestic and export demands for agricultural products with about the same total resource requirements—measured in constant dollars—as in 1950. This has been possible because agricultural productivity has increased about 1.8 percent annually during the past decade. The number of persons supplied with farm products per farm worker rose from 15 in 1950 to 26 in 1960 and to 45 in 1968. Larger production per acre and livestock unit have been the principal sources of the increased output.

Programs to maintain agriculture's future productive capacity include research on crops and livestock production, engineering research, range research, weather oriented research and some economics research. Disease and pest control, including related research, also affects future production efficiency. Conservation programs to maintain and improve the agricultural resource base, to enhance the quality of the environment, to keep our natural resources in a state of readiness, and to permit multiple uses are equally essential.

Remote sensing is a relatively new effort with great future potential. It is developing a capability to interpret and efficiently use the vast data provided by modern remote sensors using high altitude aircraft and satellite systems. In the near future, it promises to give a big assist by making possible much more accurate estimates of future production so that the acres needed in production to meet needs can be more accurately predicted.

The American people have benefited from farm programs through lower relative prices for food and fiber products. Improvements in technology and productivity have kept food price levels from rising as fast as those of industrial commodities. Today, food expenditures as a proportion of personal disposable income are lower than ever

before. We shall discuss this in more detail in the section entitled "Dimensions for Living."

Advances in agricultural efficiency also add to this Nation's ability to compete in world markets and to contribute to the food needs of the rest of the world. Total agricultural exports have increased about 5.5 percent a year since 1950 and now constitute about a quarter of total farm output.

Little Change Needed in Production Capacity Programs

Farm products will continue to find domestic markets somewhat larger than population growth. Exports, while stable in recent years, are expected to rise in the 1970's above the peak level of 1967. Projected food and fiber requirements can be satisfied if agricultural productivity continues to increase at about current rates.

Predictions are hazardous, but the current situation and projected outlook suggest little change in current agricultural production capacity programs. Programs which primarily serve objectives other than agricultural production capacity are not subject to this constraint—for example, conservation and rural development programs, consumer protection and food assistance programs, recreation and other programs that serve all Americans on farms and in cities alike.

Marketing and Distribution in the Years Ahead

A Nation with a growing population and a dynamic economy can expect marketing and distribution problems of greater complexity. This is no argument for more regulatory programs to protect the interests of farmers, consumers, processors, retailers and others in the marketing system, but simply recognition that more will be requested.

Agricultural markets, once local and regional, are becoming national in scope. A growing concentration of economic power among buyers of agricultural products is changing the structure of the market. Direct buying and contracting are increasing.

Technological changes are taking place in processing and distribution. New products appear daily, and old products appear in new form. More processing and services are being added between the farmgate and the consumer, further increasing the marketing and processing bill for farm food products which now exceeds the annual value of crops and livestock products produced on farms.

Marketing Challenge

The revolution now underway in the food marketing system will impose new responsibilities on consumers and producers if the system is to perform in the best interest of these groups.

Regulatory activity to insure the safety of food—and thus insure consumer confidence in the food supply—will need to expand. Where once inspection services dealt principally with the question of animal health, this concern now includes insuring safe levels of bacteria content, pesticide residues and antibiotic drugs in processed foods. In addition, as food processing enables the housewife to avoid much of the preparation of food in the kitchen, more of the basic food processing will be subject to inspection services. The housewife did this automatically when she broke eggs to make a cake or custard, or prepared fish for cooking, but cannot do this today when eggs are dried and put in cake mixes or fish are breaded and precooked to be heated and served.

To insure that the consumer is fully represented in the development and operation of inspection programs, consumer advisory panels should be maintained as part of the administrative procedures. In addition, the development of critical program regulations should involve public hearings where the views and opinions of all segments of the marketing system can be obtained.

The challenge to producers is the need for techniques to enhance their bargaining power in the marketing of farm commodities. A number of objectives have been identified which can be achieved through this process, including:

- Enhancement of prices over a period of time.
- Increased price stability from more effective organization of marketing activities.
- Improved coordination of marketing.
- Equitable standards of trade practices to guide the transfer of commodities from farmers to buyers.

The Agricultural Marketing Agreement Act needs to be broadened to make available additional tools which farmers can use to improve their position in the marketplace. The capacity for producers of specific commodities to organize programs covering all producers of these commodities is the key to the success of bargaining.

As one means, the farmers' ability to bargain more effectively could be met by increasing the size and effectiveness of farmers cooperatives. The range of Department services to cooperatives should be strengthened and expanded, especially to those dealing with small farmers and low-income groups.

The Department also must continue to speed the modernization of its statistical and market news price reporting system—the gathering and distribution of market intelligence. Any technique to enhance the market power of farmers will demand highly accurate and timely data on sales, production and prices.

A Washington Data Processing Center was established in 1962 to meet the need for rapid computation and analysis. New techniques, such as enumerative surveys and objective yield measurements are now widely used. Cooperative arrangements with 47 States are now in effect to improve agricultural statistical services. In 1967, the Statistical Reporting Service completed a study for a rapid data transmission system which would transmit data from State sources in minutes instead of days.

Much progress has been made during the 1960's in making reports more timely and more accurate. Still more needs to be done. During the past eight years a program of price and labor statistics was initiated in Hawaii; livestock reports were expanded and made more frequent; 18 States were added to the cut flower survey; and a program of mushroom estimates, as outlined by the mushroom industry, was inaugurated in all 24 producing States.

There is an urgent need to make increased use of modern statistical technology, reducing statistical bias and increasing sampling efficiency. Techniques should be developed which will permit a statement on the accuracy of the statistics published in each report.

Addendum

ACHIEVEMENTS—1968

OTHER INCOME AND ABUNDANCE PROGRAMS

Besides the commodity programs, USDA administers many other programs and services which promote orderly marketing for the benefit of producers and consumers alike.

Marketing Agreements and Orders

Federal marketing agreements and orders enable producers to organize and improve their bargaining strength, fit supply to demand, and mutually solve marketing problems which they cannot solve individually. These are voluntary programs, initiated, designed, and administered by farmers themselves.

The farm value of fruits, vegetables, and specialty crops marketed under Federal agreements and orders is steadily climbing—exceeding $1.6 billion in 1968.

Two of every three quarts of fresh milk consumed by Americans in 1968 came from milk dealers who paid producers at least minimum prices set under Federal milk marketing orders. These orders stabilize the marketing of milk, assuring consumers of an adequate supply and guaranteeing farmers a minimum price.

The Federal milk order program enabled producers to increase their income by about $2.2 billion for the 8 years, 1961–68.

By approving the consolidation of marketing areas to cover larger territories with fewer marketing orders, milk producers continued to improve their bargaining power with milk dealers. At the same time—with an eye towards the competition posed by the introduction of "filled milk" and "imitation milk" products—milk producers requested and received a national hearing to begin exploring the complex question of how dairy ingredients in these products should be equitably classed and priced under Federal orders.

Cotton farmers contributed approximately $7 million toward their self-help program under the Cotton Research and Promotion Order, to broaden markets and improve the competitive position of cotton. In 1968, the first full year of this program's operation, two-thirds of the funds collected was spent for sales promotion and advertising, and the remainder devoted to a variety of research projects.

Market News Program

Our 54-year-old market news service prepares and distributes more than 1,000 market news reports every day. These reports provide farmers, marketers, and others in the agribusiness community with valuable, up-to-the-minute information on supply, demand, price, and trend in the movement of agricultural commodities. Federal and State market news offices in every major agricultural region collect, analyze, and disseminate this information through the most modern means available—including a nationwide network of over 22,500 miles of teletypewriter lines which carry an average of 280,000 words daily—equivalent to a 300-page book every day of the year.

We continued to revise and refine this program to meet the needs of the marketing community. A significant development in 1968 was the inauguration of a reporting service on cut flowers. We started it on a pilot basis at the request of, and with financial assistance from, the floriculture industry. Proven successful, this service will be expanded in 1969.

Matching Fund Program

Our Matching Fund Program helps the States develop new and improved marketing services. These complement and supplement existing Federal-State programs aimed at product quality improvement, marketing expansion, cost reduction, marketing information, and more marketing power.

There were 168 such projects functioning in 44 States during 1968. A Kansas project seeks to reduce or to eliminate egg breakage during handling, transportation, and storage. A Mississippi project is helping producers select suitable vegetable varieties, determine optimum harvest time, and develop grower-processor contract terms as part of an overall effort to establish a vegetable canning and freezing plant. A South Carolina project is improving the marketing of peaches by forecasting volume movements of peaches 10 days in advance of harvest dates.

Surplus Removal and Purchase Programs

Our price assistance program literally makes one dollar do the work of two. Using a portion of the funds collected annually from import duties (known as "Section 32" funds), we purchase perishable commodities to remove temporary surpluses from normal trade channels—thereby helping to improve farm income.

The products these dollars purchase are distributed primarily to needy families, schools, and institutions, thereby helping to improve the diets of millions of Americans.

In 1968 we spent some $23 million in "Section 32" funds to buy surplus supplies of turkey and distributed them through the school lunch program to provide tasty, nutritious lunches for many American youngsters.

In the 8 years before 1961, the Department spent $991 million on this price assistance program. Since 1961, we have spent over $1.46 million to improve farm income and American diets.

For example, when potato producers during fiscal 1968 were faced with disastrously low prices, we initiated a broad-scale diversion program that helped to more than double prices received by growers. In addition, we purchased some 16.8 million pounds of instant mashed potatoes for needy family distribution.

Late in the fiscal year, we began purchasing a number of food products aimed specifically at boosting the nutrition intake of persons receiving donated foods—and, at the same time helping to boost farmer income. Among the new foods purchased were a scrambled egg mix, fruit juices, canned tomatoes, evaporated milk, corn sirups, and canned whole chicken.

In total, nearly $167 million was spent in 1968 to purchase surplus supplies of fruits, vegetables, poultry and eggs, dry beans and peas, meats, fats and oils, and other miscellaneous products. We spent an-

other $56 million to purchase substantial quantities of food for the National School Lunch Program. While these were "Section 6" purchases, and not intended as price assistance, they nevertheless helped to increase the demand for farm products. The Food Stamp program added $173 million more to the market in 1968.

IMPROVING FARM MANAGEMENT

With agricultural production techniques changing faster than ever before, a heavy burden falls on our problem-oriented educators, such as Cooperative Extension workers, to adapt new research developments and techniques to practical farm situations.

Improving Livestock Management

In 1968 Extension helped launch major programs in cooperation with industry groups to make beef, sheep, and swine production more profitable.

The Beef Improvement Federation, consisting of 30 State Beef Cattle Improvement Associations and 8 breed associations, seeks to develop greater uniformity in criteria for measuring performance and thus extending beef herd improvement to the entire industry.

For the sheep industry, projects in both production and marketing were initiated. The production project aims at helping producers learn, understand, and apply all scientifically proven sheep production practices. The marketing project is designed to develop educational programs that will interpret market demands more effectively and increase the efficiency of assembling, processing, and distributing the industry's products.

The swine project seeks to identify industry needs, initiate research to meet the needs, develop "how-to-do-it" literature for producers, and set up projects to help producers improve production and management practices.

The Specialized Approach

One of our newer Extension innovations to help farmers and ranchers apply the growing bank of scientific information is a more specialized approach to field staff assignments. Specialized agents are assigned to a multi-county area to practice in their subject-matter fields rather than operating as generalists in one county.

This greater specialization has helped farmers apply scientific developments more effectively to specific problems.

We have also delineated and identified target audiences. Two major studies, entitled *Extension Responsibilities to Commercial Farmers and Ranchers* and *Extension Responsibilities to Farmers and Ranchers With Gross Farm Income Less than $10.000*, have helped Extension structure its programs to meet special needs.

Electronic data processing has gained an important role in farm management decision making. Just recently, it has been used to conduct studies in reducing farm machinery costs. Farm machinery management decisions are increasingly important as farmers turn to mechanization to solve the farm labor shortage.

Extension and other USDA agencies have taken the lead in this development.

Conferences and Schools

We continued to stress educational efforts to improve farmer management, bargaining, and marketing.

During the past 8 years, more than 25,000 producers have attended Extension-run in-depth conferences and schools on farmer bargaining. These sessions focused attention on the economic, social, and legal implications for improving bargaining power.

More than 30,000 persons have participated in conferences to help cooperative managers and members of boards of directors become better managers.

Twenty-five State Extension Services have initiated educational programs on the use and marketing of wood products. Much of this effort has been devoted to helping small wood processing industries improve efficiency and adopt new technology. This has helped to open markets for small woodlot owners.

During the past 4 years we have increased our emphasis on helping low-income, low-volume farmers profitably market their products. Pooling through cooperatives, auctions, and other arrangements has made it possible to find markets otherwise not available for small-volume producers of vegetables and livestock.

Helping Farmers Get the Facts

In running their business, farmers are increasingly dependent on regional, national, and international facts about production, supplies, prices, and other statistical information. The USDA's Statistical Reporting Service helps provide these facts through estimates and forecasts covering nearly 200 commodities which are released through 700 Federal reports and about 11,000 State reports each year. The basic information is obtained primarily from voluntary reports submitted by farmers and businessmen—some 2.7 million of them in 1968.

"POLICING" THE MARKET

USDA administers more regulatory laws to protect the interests of farmers, marketers, and consumers than any other Government agency. Effective enforcement of these programs helps to assure dependable food supplies at reasonable prices through orderly marketing. It also protects the public against product misrepresentation and unfair business practices.

Regulatory Programs

Fair trading practices in the fruit and vegetable industry are maintained under the Perishable Agricultural Commodities Act, which provides a means of enforcing contracts in interstate or foreign commerce. We took action in some 2,066 reparations and disciplinary cases in 1968, and aided claimants to obtain about $3 million in payments in reparations proceedings.

From 1961 through 1968 we "refereed" more than 17,900 complaints under the Perishable Agricultural Commodities Act. Awards to complainants for damages suffered totaled $19.4 million.

Truthful labeling of seeds for the farm and garden is the objective of the Federal Seed Act. To achieve this goal, we tested over 20,000

seed samples in 1968, and inspected some 7,600 lots of imported seed to insure that they met U.S. requirements.

Our responsibilities for insuring the safekeeping of agricultural products stored in public warehouses under the U.S. Warehouse Act continue to increase, as more warehouses with larger capacities are built and licensed under this Act. Over 1,300 grain warehouses with a capacity of nearly 1.6 billion bushels, and 492 cotton warehouses with a capacity of over 15.7 million bales are now licensed under the U.S. Warehouse Act.

Major savings to U.S. farmers resulted from our increased participation in transportation rate adjustment proceedings in 1968. Savings of $35 million to $40 million alone resulted from our opposition to proposed general railroad freight increases.

Since 1961 we have participated in 755 rate adjustment proceedings.

Safeguarding Competition in Meat

The Packers and Stockyards Administration strives to maintain free, open, and competitive marketing at all levels of the livestock, poultry, and meat industries. The agency regulates trade practices which annually involve $15 billion worth of livestock, $18 billion worth of meat, and $4 billion worth of poultry.

During fiscal 1968, P&SA handled 5,555 complaints involving unfair practices. More than $1.4 million was returned to producers in informal settlement of 412 complaints. Another $85,363 was awarded to 11 complainants in formal cases.

Formal action was initiated in 221 cases during the year, 196 cases were completed, and 155 were pending as of July 1, 1968.

We turned the public spotlight on a widespread "bait and switch" advertising scheme which was victimizing consumer-customers of a nationwide freezer meat sales firm. Following P&SA's lead, several States began similar investigations. The Federal Trade Commission is now prosecuting similar cases. The Canadian government has launched a national consumer protection program to curb such practices there.

Responsive to changing conditions, the agency issued a new regulation governing packer purchases of livestock on a carcass grade and weight basis. Public hearings and testimony indicated a serious need for regulatory guidelines to halt unfair and deceptive practices which were penalizing livestock producers using this relatively new form of marketing.

The agency continued its scale testing and check weighing programs, and launched a public education program designed to encourage honest and reliable weights in livestock marketing.

More than 12,500 tests were conducted on 5,538 scales during the year. We found 19.8 percent of the scales to be inaccurate. This compares with 22.8 percent inaccurate in 1967, and 23.7 percent in 1966.

The agency conducted 269 weighing investigations during the year. False weighing was found at 54 markets and 9 administrative complaints were filed.

We estimate that P&SA activities save U.S. farmers at least $275 million a year.

Commodity Exchange Authority

The Commodity Exchange Authority works to safeguard producer and consumer interests in the pricing and marketing services of commodity exchanges. During fiscal 1968, CEA supervised trading in 20 agricultural commodities, and kept watch over 14.7 million futures transactions to prevent price manipulation, fraud, and other abuses prohibited by the Commodity Exchange Act. In fiscal 1960, there were only 7.4 million futures transactions.

Wheat, corn, soybeans, pork bellies, and potatoes are currently the largest commodity markets, accounting for 82 percent of the year's futures trading activity in all regulated commodities.

Because of growing market utilization and increased public participation in commodity trading, major amendments to the Commodity Exchange Act were enacted in 1968.

Important features of the new legislation include:

The requirement that brokers who solicit or accept orders to handle customers' commodity trades and their funds meet specified minimum financial conditions. Brokers are now required to show reasonable capital resources, where before they needed only to register with the CEA, without any showing of financial responsibility.

Increased penalties for certain violations, such as manipulation and embezzlement. Serious violations can now be prosecuted as felonies rather than as misdemeanors.

The requirement that contract markets enforce their own rules relating to futures trading. This provision should increase actions by the markets themselves to maintain the efficiency and integrity of the futures trading system. Extending regulations to a number of new commodities—live cattle, live hogs, frozen pork bellies, frozen skinned hams, and hides—in which the fiscal 1968 volume of trading was valued at over $15 billion.

COOPERATIVES GIVE FARMERS "MARKET MUSCLE"

Both on the adequate and inadequate-sized farms, operators use cooperatives to increase their returns from crops and livestock and to reduce their production costs. In 1968 the American farmer sold 30 percent of his products and bought 17 percent of his supplies through cooperatives—a $22 billion volume. Through co-ops, he marketed two-thirds of his dairy products and two-fifths of his grain and bought one-third of his fertilizer.

Our Farmer Cooperative Services helps farmers and other rural people live better by using cooperatives more effectively. FCS estimates that farmers get $500 million each year in refunds—or over 3 percent of their net incomes—plus other benefits from cooperatives.

Mergers and Consolidations

For operators of adequate-sized farms, FCS has played an important role in helping co-ops consolidate and thus increase their efficiency and marketing power.

In 1968, FCS helped four regional grain co-ops, with 300,000 members, consolidate into a single organization, Far-Mar-Co, with headquarters in Hutchinson, Kans. This will reduce duplication of facilities and services. With an annual volume of 200 million bushels, the new co-op can bargain on an equal footing with the Nation's biggest buyers.

More than 14,000 dairymen in Kansas, Missouri, Illinois, Iowa, Nebraska, and Texas have consolidated into a single centralized coop-

erative, Mid-American Dairymen, with headquarters in Kansas City, Mo. With milk and milk product sales of $200 million a year, the co-op is a powerful voice for its members. It is increasingly efficient in processing and moving milk from farms to consumers.

FCS has also shown fruit and vegetable processing co-ops how to save 10 percent by pooling their container orders, 10 percent by fabricating and printing their own cardboard containers, and 17 percent by manufacturing their own metal cans.

In cooperation with land grant universities, FCS has examined the Texas-Louisiana rice industry and is helping growers improve marketing, with potential increased income for farmers of $5 million annually.

Help to Inadequate-sized Farms

Through cooperatives, FCS is helping some operators of inadequate-sized farms attain commercial status and is helping others move out of agriculture into rewarding rural occupations.

Through marketing co-ops, farmers in a 20-county North Carolina area have built a trellis-grown tomato industry from nothing in 1958 to a $5-million-a-year industry in 1968. The original co-op, financed locally, has liquidated its debts and is paying cash dividends to farmers. The new industry has brought a $1¼ million investment and a $1.5 million annual payroll to the area.

Working with the University of Kentucky, FCS has shown 10,000 western Kentucky farmers how to save more than $2 million a year through co-op grain marketing. The new Hopkinsville co-op is the first of seven that FCS and the University have recommended. Expanding marketing facilities can increase farmers' returns by 5 cents a bushel.

Through co-op ownership of machinery, a farmer can reduce the investment he needs to attain commercial-scale operation. Farmers Home Administration has loaned $7 million to 1,135 such co-ops with 7,500 members through 1968.

For operators of inadequate-sized farms who want to move out of agriculture, FCS is helping groups organize handicraft marketing co-ops, labor cooperatives, and co-op recreation enterprises.

FCS continues its advisory studies, specialized research, and development assistance to help cooperatives improve financial practices, management, member relations, organization structure, and bargaining power. The Cooperative Extension Service continues to help farmers form cooperatives and improve co-op efficiency through workshops, seminars, and economic analysis.

During the past 8 years FCS has made about 150 technical studies and has issued more than 100 research and other reports to help co-ops improve their effectiveness. During this period more than 450 co-ops merged or consolidated with other associations to operate more efficiently and provide better service for their members.

AID IN FARM EMERGENCIES

Special aid programs are necessary to help farmers survive the effects of natural disasters such as drought, floods, fires, hurricanes, tornadoes, and earthquakes.

Federal Crop Insurance

This protective service enables farmers, by insuring their production expenses, to put a floor under their losses from excessive moisture, drought, freeze, and other natural disasters.

High annual expenses and capital investments involved in modern farming make an insurance guarantee of production costs a critical need every year. Without it, some farmers hit by crop failure could not continue farming.

In the 1968 crop year farmers had more protection against crop failure than ever before. They paid about $49 million in premiums for a record $890 million of Federal Crop Insurance protection.

Indemnities paid to farmers in the 1968 crop year amounted to $41 million, or about 83 cents for each $1.00 of premium collected. In contrast, the Corporation paid out more than $55 million in the 1967 crop year against premiums of $43.5 million, or about $1.26 for each $1.00 of premium.

In recent years we have had many more requests for expansion of FCIC service to additional counties and crops than could be provided with available resources. The interest of commercial sources of credit in the self-help which the farmer can provide for himself through FCIC has expanded more during the past 2 years than during any time in the 30-year history of Federal Crop Insurance.

Crop insurance is a high risk venture for the insurer. Premiums, consequently, are heavy and this is the major reason more of our farmers do not use the protection but instead gamble that crop failure will not strike them. To get more participation, Canadian Crop Insurance, developed after careful study of our FCIC experience, excludes administrative costs from farmers' premium rates and in addition provides a Government subsidy of 25 percent or more of the premium rates required to balance premiums and indemnities.

Even with our high premiums and the limited resources available for extending the program, significant progress was made from 1961 to 1968 in expanding Federal Crop Insurance, as the following table shows:

	1961	1968	Percent increase
Counties served	890	1, 395	57
Number of county programs	1, 597	3, 397	113
Premium income	$18, 150, 000	$49, 000, 000	170
Protection provided	$271, 709, 000	$890, 000, 000	228

Other Disaster Programs

Three programs, administered by the Agricultural Stabilization and Conservation Service, are available to farmers afflicted by such disasters as drought, blizzards, tornadoes, rain, hail, flood, frost, and fire.

Haying and grazing privileges are granted on croplands normally diverted from production by agreement between the farmer and USDA; livestock feed is made available at reduced prices or, under certain conditions, donated; and costs are shared with farmers in restoring farmlands and conservation structures.

In general, with the exception of the Southwestern blizzard, natural disasters requiring ASCS aid in fiscal 1968 were not extensive.

About 300 counties in 19 States received emergency aid because of drought. More than half of these counties were in Kansas, Tennessee, and Alabama. More than 100 counties in 15 States received emergency assistance because of floods and excessive rainfall. Over half of these counties were in Indiana and Texas. Twelve counties in Iowa, Kentucky, Ohio, and Tennessee received aid because of tornado damage. And 20 counties in Arizona, Colorado, New Mexico, and Utah were given emergency assistance because of blizzard.

Through mid-October 1968, 291 counties used the program permitting haying and grazing on lands retired or diverted from crop production. In contrast, this program was used by 443 counties in 1967 and by 1,042 in 1966.

Occasionally, as in the case of the storm of mid-December 1967, which struck Arizona, Colorado, New Mexico, and Utah, more than one assistance program is needed.

In the high altitude range areas, this was the worst blizzard in 20 years. It covered normal grazing grounds with a blanket of snow for several months. In the lower elevations, the storm brought heavy rains and severe flood damage.

The livestock feed program, the feed donation program, and emergency cost-sharing assistance were all made available where needed. In 19 counties livestock men could get CCC-owned feed grains at reduced prices. Approximately 336,000 bushels were used to preserve and maintain basic livestock herds until the spring thaw opened the normal grazing areas.

On some of the Indian reservations in Colorado and New Mexico, stockmen were too poor to take full advantage of the livestock feed program. Consequently, the feed donation program was employed to help them bring their herds through the critical season. About 43,500 bushels were donated for Indian use.

Three months after the blizzard, as the damage became apparent, ASCS made a cost-sharing allocation of $350,000 to six Arizona counties for the repair and restoration of range fences damaged by accumulations of snow and ice.

The same storm had brought heavy rains to lower elevations, damaging farmlands and conservation structures in Arizona. An emergency allocation of $350,000 for conservation cost-sharing was authorized to assist farmers in four counties.

In the wake of major loss from natural disaster farmers invariably need credit to rebuild and start operations again. In fiscal 1968 the Farmers Home Administration extended $108,174,000 in emergency loans to 22,228 farmers and ranchers. These loans helped farmers restore operations after damage by storms, flood, drought, freezes, and other natural disasters.

Many USDA agencies spring into action in an emergency. After Hurricane Beulah devastated areas of Texas in September 1967, for example, mass feeding was necessary. About 4 million pounds of USDA-donated foods were moved into the area and made available through various relief programs.

Crews from REA-financed cooperatives from as far away as 300 miles rushed in to restore telephone service. The Soil Conservation Service sent planning parties into flood damaged areas to survey damage and to make recommendations for emergency technical assistance.

GROWING NATIONS—NEW MARKETS

"The other day, at a dinner, the lady next to me dropped something. I stooped to pick it up, but my host said, 'Don't bother. It's only a piece of bread.'"

The lines above are paraphrased from the closing sentence of a magazine article I came across about 3 years ago.

"Only a piece of bread!" The words were striking because at that time the world seemed to be facing a food crisis of gathering intensity. Demographers were predicting widespread famine by 1980 or sooner. After some 2 decades of slow but steady growth in world per capita food production, progress had virtually stalled in the early 1960's and had actually declined in 1965.

There was a terrible irony in the situation. For nearly 5 years one of our greatest concerns had been to unlock the stranglehold of agricultural surpluses, particularly grain surpluses, which had American farmers by the throat. To most of us in the United States a slice of bread was close to worthless, costing less than a penny. But to millions of other people throughout the world the quest for a piece of bread, or its equivalent in rice, was literally their dominant occupation.

The thought struck me: What a changed world this would be if, some day, all over the earth men, women, and children would be able to say, "It's only a piece of bread." What would this mean in terms of human progress? What would it do to ease world tensions? What would be its effect on world peace? Will that day ever come?

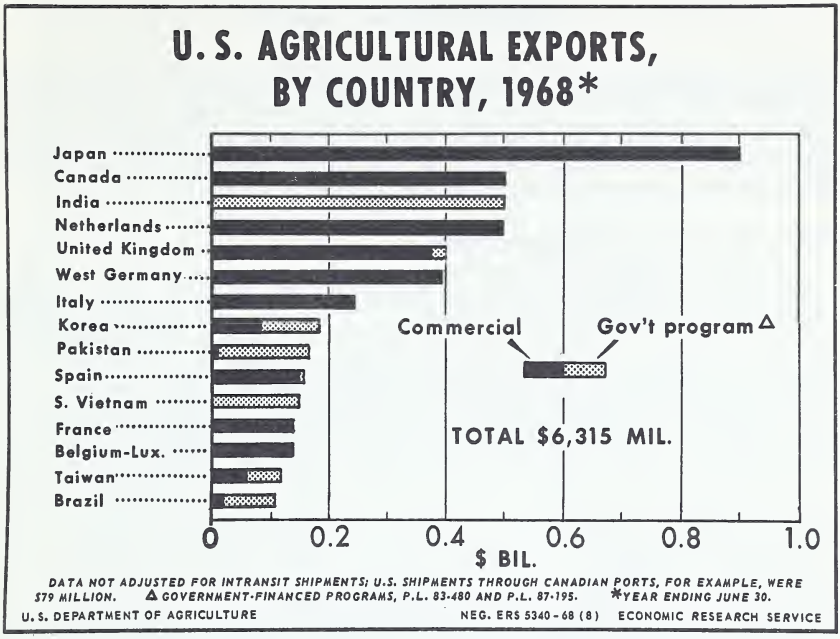
Today the gloomy prospects of a few years ago have been brightened by a significant increase in actual food production and particularly in food potential. Now there is a growing optimism in the world food outlook. Some experts say that a revolution in tropical agriculture fueled by new varieties of wheat and rice is underway.

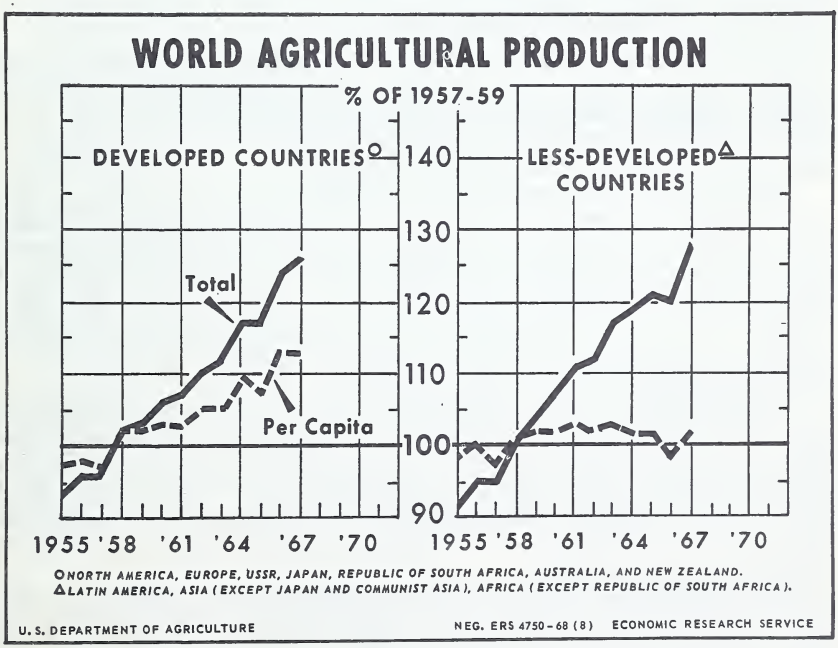
I am personally very proud of the roles American farmers and the U.S. Department of Agriculture have played on the international scene during the past 8 years.

Commercial exports of U.S. farm products have aided many millions of people in the developed countries of the world to improve their standards of living and have helped to lessen inflationary pressures in some of these booming economies.

And in addition, our food aid exports have helped prevent starvation and have improved diets for many millions more in Asia, Latin America, and Africa. As part of this process, our food has been used to pay part of the wages of people building roads, housing, irrigation projects, and other public works, thus serving as a tool for development.

Food grown on American farms has not been our only contribution to a better fed, more stable world. American agricultural know-how has contributed significantly to the now brightening world food picture.


U. S. AGRICULTURAL EXPORTS, BY COUNTRY, 1968*
Japan
Canada
India
Netherlands
United Kingdom
West Germany
Italy
Korea
Pakistan
Spain
S. Vietnam
France
Belgium-Lux.
Taiwan
Brazil
Commercial
Gov't program △
TOTAL $6,315 MIL.
0
0.2
0.4
0.6
0.8
1.0
$ BIL.
DATA NOT ADJUSTED FOR INTRANSIT SHIPMENTS; U.S. SHIPMENTS THROUGH CANADIAN PORTS, FOR EXAMPLE, WERE $79 MILLION. △ GOVERNMENT-FINANCED PROGRAMS, P.L. 83-480 AND P.L. 87-195. *YEAR ENDING JUNE 30.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5340-68 (8) ECONOMIC RESEARCH SERVICE


WORLD AGRICULTURAL PRODUCTION
% OF 1957-59
DEVELOPED COUNTRIES○
LESS-DEVELOPED△ COUNTRIES
Total
Per Capita
140
130
120
110
100
90
1955 '58 '61 '64 '67 '70
1955 '58 '61 '64 '67 '70
○NORTH AMERICA, EUROPE, USSR, JAPAN, REPUBLIC OF SOUTH AFRICA, AUSTRALIA, AND NEW ZEALAND.
△LATIN AMERICA, ASIA (EXCEPT JAPAN AND COMMUNIST ASIA), AFRICA (EXCEPT REPUBLIC OF SOUTH AFRICA).
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 4750-68 (8) ECONOMIC RESEARCH SERVICE

AGRICULTURAL TRADE

For 5 consecutive years our agricultural exports have exceeded $6 billion. This goal had never been reached before 1964. In the past 8 years our agricultural exports have totaled about $18 billion more than in the preceding 8 years. Most important, virtually the entire gain has been in sales for dollars.

Importance of Agricultural Exports

To U.S. farmers, exports mean more land in production, larger markets, stronger prices, and bigger income. One out of every 4 acres of the land our farmers harvest produces for export. Approximately 71 million acres of U.S. farmland produced for export in fiscal 1968, about 25 percent more than the 1958–60 average. And the value of U.S. agricultural exports in fiscal 1968 (about $6.3 billion) was 40 percent higher than in 1960. Three crops—wheat, soybeans, and feed grains—each have export totals of more than $1 billion a year. Half or more of our rice, wheat, and hides and skins goes overseas. A fourth to half of our cotton, grain sorghums, tallow, soybeans, tobacco, and corn goes overseas.

To city people, the agribusiness effort that underlies these exports provides an estimated 1 million additional jobs.

To the Nation, expanding agricultural exports have contributed dollars to ease the critical balance-of-payments problem. Net contributions to the balance of payments attributable to agricultural merchandise trade have been as high as $1.2 billion a year.

Improved Access to Foreign Markets

America's strong position in the international agricultural trade market has required continuous and concerted efforts. One of our most difficult tasks has been and is to get foreign governments to relax import restrictions, giving our farm products reasonable opportunity to enter and compete with locally grown products.

Unquestionably the most difficult foreign marketing problems that will confront American agriculture in the years immediately ahead will continue to be those involving trade policy relationships. Farmers in practically all countries are having income problems. Governments typically try to improve farm income by raising prices. To assure higher farm prices, they often limit or exclude products offered by outside suppliers, even though the outside suppliers are more efficient and can provide products at lower cost.

A major attack on these problems was first launched in 1963 when, in what now appears as a historic step forward, the trading nations that are members of GATT (General Agreement on Tariffs and Trade) agreed to include agricultural trade problems in the Kennedy Round of trade negotiations. Although these negotiations, which concluded in the spring of 1967, gave us less than we hoped, they gave us more than many had expected.

We gained in our trade in fruits and vegetables, oils, tobacco, variety meats, tallow, and some others. On agricultural products accounting for over $700 million annually—products in which we have an important export interest—other countries cut their import duties an average of more than 40 percent. Reciprocally, we cut our duties an

average of 39 percent on around $500 million of the agricultural products we import.

The Kennedy Round produced a new International Grains Arrangement which is already helping Free World wheat-exporting nations maintain world wheat prices in this period of overly large supplies. Also, the IGA contains a new food aid convention which will be useful both in getting other developed countries to share the burden of foreign food assistance programs and in opening some new commercial outlets for grains.

The Kennedy Round made us more aware of the problems we still face as we try to bring greater order into world agricultural trade. A continuing example of such problems is our difficulty in selling U.S. chicken meat in Europe.

> After years of vigorous market building in Europe, U.S. chicken growers by 1962 were selling nearly 150 million pounds of chicken meat to the European Community, principally West Germany. But EC's new common agricultural policy came upon the scene, extending protection to domestic poultry producers and well-nigh excluding products from outside. By 1967, U.S. shipments of chicken meat had dropped to less than 14 million pounds.
>
> Furthermore, EC poultry producers increased their own production to such a point that they began to export to our traditional markets, aided by substantial subsidies from the Community. We protested, but to no avail.
>
> Switzerland became an important target of the EC's subsidized poultry export program. Since Switzerland is an acknowledged usual market for U.S. poultry producers, and since we were rapidly losing this market, we had no choice but to retaliate reluctantly with a poultry export subsidy program of our own.

Retaliation subsidies are not our first choice. We would much prefer to compete in world markets on the basis of efficient production. Nevertheless, this trade weapon enabled American chicken growers to regain a much larger share of the Swiss market than would otherwise have been possible.

Our offer still stands—that we will stop our retaliatory subsidy program as soon as other nations give indication of being willing to stop theirs.

U.S. Liberal Trade Policy

For many years the United States has had one of the most liberal foreign trade policies in the world. In our many efforts to gain improved access to foreign markets for American farm products, we have kept in mind that trade is a two-way street.

Our biggest problem in maintaining a liberal policy is that other exporting countries are tempted to single out our attractive markets as targets for their agricultural surpluses. This happened recently for dairy products and beef, and we found it necessary to take corrective steps. We respect the right of other nations to sell in our markets, but we cannot allow them to slug our markets with inordinately large supplies, at cutrate prices, of commodities which they divert because of overprotection in other markets.

> The basic problem for dairy products has been extremely large surpluses, particularly in Western Europe, resulting from its unrealistically high government-supported price levels. Common Market farmers produced more than local markets there could absorb. These countries then tried to move their dairy surpluses anywhere they could find buyers, in whatever processed form seemed necessary, and at whatever price they could get.

The United States became a prime target. Our imports zoomed. The U.S. dairy industry was threatened with extensive damage. Steps were taken to bring the volume of dairy imports down to an orderly level through investigations into the dairy import situation by the U.S. Tariff Commission and Presidential proclamations limiting imports.

We both protected our dairymen and struck a blow against foreign protectionism, inasmuch as the dairy imports that we cut off were an outgrowth of foreign protectionist policies.

In the case of beef imports, we worked with Congress to write a new law—P.L. 88–482 of August 1964—to protect American livestock growers against inordinately high imports of certain meats, primarily beef, veal, and mutton. This law is so constructed that it is on a standby, ready to impose import quotas whenever anticipated meat imports become so excessive as to reach a "trigger" point. At the same time, the law gives full recognition to the right of traditional suppliers to sell meat in our market in an orderly manner and within customary volume levels. It incorporates the principle of "a fair share in growing markets," a principle which we have urged on other nations and which, if accepted by them, would substantially increase export markets for American commodities.

We succeeded, temporarily, in bringing order back to our meat import trade and protecting our cattle growers against excessively large imports. However, the problem has not been permanently resolved. As in the case of foreign dairy products, it is related directly to protectionist actions taken by other countries which distort normal patterns of world trade.

Evolving Trade Policies of the European Community

Despite the examples I have cited, I am not really discouraged about the long-time course of our agricultural trade. Nations and groups of nations often go through several phases in bringing their policies into line with sound economic principles. If they do that, and eventually they will, our agricultural trade will flourish.

I see four distinct phases in the agricultural development of the European Community, our greatest single agricultural market.

The first phase was from 1958 to 1962 when the Community was starting to integrate its industry but had no integration of agriculture. I would call that first period the *bonus phase for outside suppliers* such as the United States. Spurred on by the industrial integration, the European economy boomed. Demand for agricultural products rose. Since internal Community suppliers of agricultural commodities did not have a preferential position in the market, our exports rose.

Phase two I would call the *Community's import substitution phase.* The EC countries started to integrate the internal market for certain agricultural commodities such as poultry. As I mentioned earlier, the protected expansion of Community poultry production led to the so-called chicken war. Finally, the GATT contracting parties agreed that the United States could adjust its tariffs upward to compensate for the loss of $26 million in exports of poultry to the Community.

The third phase I would call the *Community's export dumping phase.* The Community is now producing more of some farm products than it needs and is using export subsidies to ship to third markets. It is this phase that has most incurred the displeasure of not only the United States but of many other agricultural exporting countries. It

was this "dumping phase" that necessitated our retaliatory export subsidy on chickens shipped to Switzerland, and our actions to limit the entry of subsidized exports to the United States.

The European Community is now approaching its fourth phase, which I call the *pocketbook phase.* The Community is painfully feeling the cost of its farm program in its pocketbook. The agriculture of the Community is in almost as big a mess with climbing surpluses and low farm income as the United States was in 1960. The cost of agricultural overproduction is so great that national legislatures are being called on increasingly to work out ways of funding the large expenditures, which they are reluctant to do.

The European problem is especially acute for dairy products—and I confidently predict that within the next 12 months they will devise a program to whittle down sharply the total contributions the governments will make to this program. Once started on dairy, they will have to face similar problems in other areas, such as grain. It is one thing to finance the cost of a program through import levies. It is another thing to go before national parliaments year after year to get appropriations.

The Department of Agriculture has expressed frequent doubts in the past 8 years about agricultural policies in Europe that seemed to be running counter not only to the trading interests of other nations but also counter to the interests of the countries initiating such policies. The expressed fears of the Department have been realized all too well, although I take no satisfaction from that. What is needed now is for European agriculture to speed its adjustment process. For unless those adjustments come fairly rapidly, we of the United States will not only suffer further trade losses but there will be a further spread of protectionism around the world.

I am encouraged about prospects for adjustment. At a meeting of the Organization for Economic Cooperation and Development in November 1968, agriculture ministers generally, including ministers of the European Community, agreed to a communique which recognized that the problem of overproduction must be faced and that agricultural problems can't be exported through the use of subsidies. Because they recognize that they are in serious trouble, there is hope that they will do something about it.

Improved Market Intelligence Service

The foreign market intelligence service which the Department has provided for many years is critically important to U.S. agricultural trade operations. It provides a firm base for giving American farmers, businessmen, and governmental leaders the foreign marketing intelligence they need to operate effectively in today's greatly expanded agricultural trade.

In 1968 we updated this important service by adapting it to automation. The Department will now be able to handle a much larger volume of information on world agricultural production and trade, process it faster, and make it available sooner.

The principal collecting points for this information are the 61 U.S. agricultural attache posts in foreign countries. Some 2,000 scheduled reports are sent back during the course of a year, plus as many or more voluntary reports on spot developments.

AGRICULTURAL AID

In all of our agricultural relationships we have been guided by the fact that a close relationship exists between the economic growth of foreign countries and U.S. commercial exports of agricultural products. Economic growth creates jobs and purchasing power, gives people the means to buy more.

This is borne out by the fact that our best customers are the relatively rich countries—in Western Europe and Canada and Japan. In the developed world, the average person earns $656 a year, and buys about $22 worth of U.S. goods annually. About $6 of this goes for U.S. farm products.

In the less developed regions of Asia, Africa, and Latin America, the average persons earns less than $100 a year and buys $5 worth of U.S. goods. Only 46 cents goes for our farm products.

Developing Countries Are Potential Markets

As countries modernize and expand their food production, per capita income rises and they gradually become cash customers for many U.S. agricultural exports. This has occurred in Korea, the Philippines, Taiwan, Turkey, Spain, Greece, and Israel. Other less developed countries can also become cash customers for U.S. farm goods.

Obviously, the developing countries, with 2 billion people, have great potential as a market. For each 10 percent rise in his income, the average foreign customer buys 13 percent more U.S. farm products. Our future agricultural exports, therefore, depend in no small measure upon accelerated economic growth and higher income levels in the developing countries.

Overall economic development in growing nations depends, to a major extent, on their successful agricultural development. Consequently, we have stressed the vital importance of modernizing agriculture in the emerging nations.

In the mid-fifties the food issue was seen mainly as a problem of moving vast grain surpluses from the United States to countries in need. But in the sixties it became clear that this could be no lasting solution to the world's food problem. We turned our attention to encouraging development within the needy countries, and to developing ways by which the resources of the USDA could be utilized toward that end, in cooperation with the Agency for International Development.

In 1962 we established an Assistant Secretary of Agriculture for International Affairs, and in 1963 we set up an International Agricultural Development Service.

In 1966, a new agreement was signed between USDA and the Agency for International Development whereby USDA's technical expertise was made more readily available for international assignments. And, jointly with AID, we have succeeded in getting U.S. agribusiness increasingly involved in foreign development.

We have drafted a new systems approach for integrated agricultural development under Section 406 of P.L. 480.

> The new approach rests on the premise that increased and sustained farm production can be achieved only through detailed planning and direction of a total system that will guarantee a continuous flow of adaptable technology to farmers and to related business in an environment conducive to

adoption. It strives to obtain this through a delicately balanced integration of research, extension, developmental activity and policy in a single package. We are proposing three pilot programs to develop as realistic examples of how this concept can be applied.

New Food for Freedom Program

Recognizing that vigorous self-help is basic to a long-term solution for the less developed countries, the President recommended and Congress enacted legislation requiring all P.L. 480 food aid agreements signed beginning January 1, 1967, to contain specific self-help provisions. Sales agreements are now made only after carefully considering what practical self-help measures are being taken by the recipient country to improve its own capacity to provide food for its people.

The Food for Peace Act of 1966 also has these changes:

- U.S. food aid shipments are no longer limited to surplus commodities.
- Our goal is to move from sales of U.S. farm products for local currencies to purchase for dollars, or with dollar credits, by the end of 1971.
- Additional stress is being placed, especially in donation programs, on foods for children that supply proteins, minerals, and vitamins essential for adequate nutrition.
- We are giving strong new emphasis to quality of foods in the aid program, making sure they contain the essential nutritional elements. Progress in development of low-cost nutritionally valuable foods is described further in the addendum. Meanwhile, we look forward hopefully to continued and increased emphasis in the future on Title II donation programs—for school lunches, for food-for-work projects, and for supplements to the diets of such vulnerable groups as infants and nursing mothers. As the hungry nations make progress in modernizing their own agricultures, we can expect declining need for Title I food aid in terms of massive grain shipments entering commercial channels. We can then increase our emphasis on the donation programs—the programs that do not interfere with commercial trade but do strike head on at problems of actual hunger and do give people that first lift they need as they begin, through self-help, to better their economic status.
- We are relating food assistance more closely to technical assistance. In countries showing a willingness to give high priority to food production improvement, we are reinforcing self-help efforts with technical and scientific support from USDA, land grant universities, and private agricultural resources.
- The new program authorizes on a request basis the use of foreign currencies from export sales in support of voluntary programs of family planning.

The self-help requirement is already having a discernible effect. Some 30 developing nations have given new priorities to agriculture as they receive U.S. food aid. Many have increased their agricultural budgets, with year by year gains ranging as high as 50 percent.

- India expanded its budget for agricultural development by one-third in 1966–67, and is maintaining this priority. India is now using the equivalent of one-fifth of its foreign exchange earnings to import fertilizer and raw materials for manufacturing fertilizer.
- Turkey's imports of fertilizer in 1968 may have made up the largest single item in overall imports, exceeding for the first time petroleum and petroleum products.
- The availability of fertilizer in Pakistan is twice that of 2 years ago and several times that of 1960. It is expected to double again by 1970.

Technical Aid

I am proud of the progress we have made in expanding our technical aid programs in agriculture. We have done this in the real-

ization that the world's farmers will never be able to make their indispensable contribution to winning the war against hunger until they make proper use of fertilizers and pesticides, improved plant varieties, soil conservation and irrigation, mechanization and improved tools, credit, cooperatives, and better food storage and distribution. USDA represents a vast reservoir of know-how and resources for meeting this challenge. Our 29,000 professionals represent the entire spectrum of known agricultural skills.

With increasing effectiveness, we have been bringing the resources of the U.S. agricultural community to Latin America, Africa, and Asia.

Our specialists work with AID, the Food and Agriculture Organization, and World Bank officials to help a developing country establish a credit system that will enable farmers to buy machinery, fertilizers, and other supplies.

Our food scientists advise foreign governments on how to fortify cereals, or to set up pilot demonstrations, or to extend and improve the milk supply.

Our specialists in cooperatives show groups in developing countries how to pool their skills and limited capital into meaningful channels.

> In a Paraguay village near Encarnacion, 60 low income farmers started a cooperative venture with USDA–AID help in the mid-1960's. It enables them to sell higher quality starch for higher net returns. Each farmer's average production goal is now five times more than he produced before the co-op was formed.
>
> Paraguayan grape growers saved a sagging wine industry by rejuvenating their co-op. They upgraded quality control, sales, distribution, and other aspects of wine making. Tonnage delivered to the winery is now four times greater than the average for the previous 5 years.

Much of the know-how to win the war on hunger must come from America. We provide valuable training in the United States for thousands of foreign agriculturists who come to this country to learn about agricultural institutions and techniques in the expectation of applying this knowledge in their own countries. During the past 10 years some 8,000 leading Asian agriculturists have been trained in the United States under USDA programming arrangements. The number of AID-sponsored foreign nationals studying agriculture under training programs arranged by our International Agricultural Development Service is now approximately 2,000 per year.

Only 35 USDA specialists worked on agricultural development programs in emerging countries in 1960. There were 411 engaged in this work in 1968.

There were only two resident USDA/AID projects in 1960; in 1968 there were 57.

Six developing nations received USDA's technical help in 1960; 37 received such help in 1968.

Three USDA agencies participated in agricultural technical assistance projects in 1960; 15 participated in 1968.

Capital assistance supplied by the Agency for International Development to support agricultural development increased from less than $200 million per year in the early 1960's to $520 million in 1968.

The cumulative effects of our agricultural assistance efforts are beginning to pay off, especially in the free countries of Asia.

The use of new cereal varieties, far superior to the traditional varieties, is spreading in India, Pakistan, the Philippines, and elsewhere.

In Asia alone, some 20 million acres were planted to these new varieties in 1967; between 30 and 40 million were planted in 1968. The new varieties double and sometimes triple yields of traditional varieties when farmers use enough fertilizer and irrigation.

Good weather combined with improved techniques sometimes led to dramatic gains in the output of principal food grains during 1967 and 1968. The 1968 Pakistan wheat harvest was up 37 percent over the previous record, possibly an increase without precedent in any major country. India's wheat crop was up 35 percent over the previous record; total food grain harvest was up 12 percent. Ceylon's rice crop has increased 34 percent during the past 2 years. The Philippines, with two consecutive dramatic gains for its rice crop, has apparently ended half a century of dependence on rice imports.

Institutional Development Needed

The agricultural improvement which we are helping developing countries to achieve has two basic components, production and marketing. At present, agricultural efforts of less developed countries are primarily concentrated on production while they tend to neglect marketing. Yet farmers taking advantage of the new technology must enter the market; they cannot remain subsistence farmers. The seasonal rhythm of rural activity, once determined largely by the monsoon, changes when farmers irrigate more, begin to double-crop, and introduce new combinations of crops. And therefore this imbalance needs to be remedied if dramatic gains in food production are not to be canceled by a lack of marketing facilities.

Also the lag between the time when basic agricultural technology becomes available in more advanced countries and the time when it is widely adapted and applied in developing countries must be shortened. This requires improved comunications and a speed up in the preconditions for the large-scale adoption of technology. An entire "package" of development programs and policies—including research and extension and effective supervised rural credit—is essential if the modernization of agriculture is to extend to the great masses of farmers in developing countries. It is for this reason that we have worked up the proposed systems approach to which I referred earlier in this report.

Improved Diets Needed

Another breakthrough is needed to reduce malnutrition in less developed countries. The answer includes new high protein foods and improved protein quality in existing foods.

One way to achieve this is by fortifying cereal grains with essential amino acids such as lysine or protein concentrates from oilseeds, legumes, or fish.

> With USDA/AID encouragement, Government of India bakeries are now marketing "modern bread" fortified with lysine. The Government of Peru has issued an Executive Order calling for fortification of cereal grains. In Guatemala, the Institute of Nutrition for Central America and Panama is undertaking a project to fortify corn, a major staple in the Guatemalan diet.

Another alternative is to develop *new* foods that are high in protein. These new foods must be as acceptable to the population as conven-

tional foods. They must be low cost and made primarily from raw materials indigenous to the country or easily imported.

WORLD TRADE AND FOOD OUTLOOK

Throughout our 8 years in office, we have given a principal priority to enhancing the role of American agriculture in world affairs. This role is most tangibly expressed in terms of exports. We have sought, and generally have obtained, our fair share of the world's trade in agricultural products. Our Nation's agricultural exports have been built to new record heights. Our farm people and city people have greatly benefited therefrom.

As we look down the road to the years of international trade that lie ahead, we see that our agricultural exports will continue to depend on the access we achieve in foreign markets, the extent to which we promote sales of our products, and the ability of countries to buy our products—which is another way of saying their level of economic development.

In general, our export market prospects are good. While there will be problems in some areas, in others there is good prospect of growth. As an example, world markets for soybeans and feed grains have both doubled during the past 8 years and we can expect continued growth in these markets over the next decade as foreign incomes increase and consumers demand more animal products.

The Japanese Potential

In this connection an analysis of the Japanese economy points to continued expansion in Japanese imports of grain. Japan's gross national product is projected to grow at about 8 percent annually through 1980, with population growth projected at only 0.9 percent. This should produce a sharp rise in per capita income and greater per capita demand for livestock products, grain-derived beverages, and industrial products derived from corn. Expanding demand, accompanied by projected declines in Japanese output of all grains except rice, indicates a rapidly growing potential market, subject, however, to Japanese import policies.

Europe

Within the Common Market countries of Western Europe we detect a growing dissatisfaction with the burden of heavily subsidized, heavily protected agricultural production and high consumer prices. As this market opens to outside competition, as it eventually must, imports of U.S. farm products should begin to climb.

One prospect for market expansion in the years ahead could be the centrally planned economies of Eastern Europe, if world tensions ease and Europe liberalizes its trade.

The Developing Nations

There is, as we have pointed out, a vast potential market in the less developed countries where two-thirds of the world's population lives. If the emerging countries, with help from the developed nations, move increasingly into the world market economy, their trade will become more and more important.

Because of much improved production prospects in India and Pakistan, the current import requirements of these countries are now well below those of recent years. However, import requirements of other aid recipient countries continue strong.

Projections

We have developed a world trade and demand framework for projecting to 1980 the export demand (world consumption, production, trade flows, and price movements) for selected agricultural commodities by the developing world. We are translating this into a computer program. It will enable us to evaluate much more effectively the potential world import requirements of agricultural products by both the developed and less developed countries.

Although a continuing substantial increase in demand, especially for grain, is anticipated, our analyses also show a capacity of the exporting countries to produce grain that could very easily outrun effective import demand. This could cause serious problems in maintaining balance between world production and consumption. The United States would have particular difficulty in holding its share of the world market if we were the only major nation disciplining itself to supply management to balance future world grain supplies with effective world demand. A high level of international cooperation will be needed in sharing the responsibilities and gains of increased world demand and climbing productive capacity while at the same time assuring effective growth by the developing countries.

World Food Outlook

The world food outlook has improved, but by no means are the major problems solved.

Largely because of drought in the Asian sub-continent, especially in India, agricultural production in the less developed countries leveled off during the mid-1960's. In 1967, total food output in these countries shot up by 9 percent, increasing per capita output by 6 percent. The largest gain was in India, where production rose about one-fifth. But much of India's increase represented recovery from the low output of the drought years.

Considerable success in introducing new varieties and increasing fertilizer application played an important role in India's recovery as in the progress of other nations. Excellent weather, however, was the decisive factor not only in India but also in West Asia, Pakistan, Mainland China, and Latin America.

On the other hand, findings during the year further confirmed previous estimates that the world as a whole would have ample grain output capacity through 1980. In fact, the productive capacity of the developed countries could easily meet the needs of the less developed countries even if the developing world fails to increase its growth rates in production. This is complicated, however, by the massive problems involved in making this food available where it is needed.

There are very encouraging indications that the emerging nations can make accelerated progress in food production. We are learning what "makes" progress. Some developing nations have achieved amazing advances while others with equal resources have lagged. The core element seems to be the national *will* to succeed.

Many of the developing countries will find it extremely difficult to make the progress in agricultural output and agricultural capacity needed to win the war on hunger. We would emphasize again that the recent improvements in Central America, selected countries in Africa, and India, Pakistan, Turkey, and elsewhere, while encouraging, do not mean that the long-term problem of hunger is solved.

The recent technological breakthroughs do not by themselves guarantee the kind of continuing agricultural progress we have experienced in the United States. We have a network of government, university, and business institutions which perform extensive, interrelated work in research, extension, education, marketing, and the manufacture of farm equipment and supplies. Asian, African, and Latin American countries are just beginning to build such institutions. They will have to do much better if output increases are to continue after high-yielding varieties have spread to the most suitable lands.

Nor do the recent breakthroughs indicate a final solution to the problems of overall economic development. We expect food production advances to stimulate further overall economic progress. We know that food shortages and backwardness in agriculture hold back progress; they were, for example, a major cause of India's recent economic stagnation. But over the longer run, self-sustaining economic growth will require parallel progress in agriculture and industry. Indeed, since modern agriculture depends so heavily on industrial inputs and urban markets, slow industrial growth would place severe limits on the speed of agriculture's advance in the developing nations.

The most important thing about the new agricultural progress, therefore, is not what it is, but what it can be.

The situation is no longer static. The developing countries are far more receptive to programs to improve food production. The United States and other developed countries have become keenly aware of how important agriculture is to overall economic progress. The means of communication are vastly improved. There is a huge reservoir of know-how to be shared. Opportunities for capital investment are opening up.

The day is here when the world's farmer can face the future with new hope.

And I believe the day is coming when the war on hunger will have been won and people everywhere will be able to say, "It's only a piece of bread."

Addendum

ACHIEVEMENTS—1968

Exports

In fiscal 1967 our agricultural exports reached a peak of $6.8 billion—50 percent more than in 1960. In fiscal 1968, mostly because of lower prices, the value of U.S. agricultural exports declined to about $6.3 billion—but still was 40 percent above 1960. In terms of volume, as contrasted with dollar value, the fiscal 1968 total of exports was less than 2 percent below 1967.

The volume of soybeans and oilcake and meal exports actually reached record highs in 1968, though their value was down slightly. Significant drops occurred, however, in foreign sales of animals and animal products, cotton, tobacco, and fruits.

Imports

In fiscal 1968, the United States imported $4.7 billion worth of agricultural products. These imports included large amounts of such noncompetitive items as coffee, rubber, bananas, and other tropical and semitropical products.

Developing Foreign Markets

Export market development, in cooperation with U.S. industry, moved to new peaks of activity and accomplishment in 1968.

Here are some highlights of the year:

- More than $1.3 million in sales of U.S. foods were made at 1968 in-store promotions in seven countries: Denmark, France, Germany, Israel, Netherlands, Sweden, and the Philippines. Additional sales amounting to over $8 million are anticipated from these efforts.

- Promotional efforts were stepped up in transitional markets where the move from aid to trade has been accelerated by the programs of the 1960's. Promotional trade exhibits were staged for the first time in Korea, the Philippines, and Lebanon. An agricultural attaché was stationed in Taiwan. All these countries are former aid recipients.

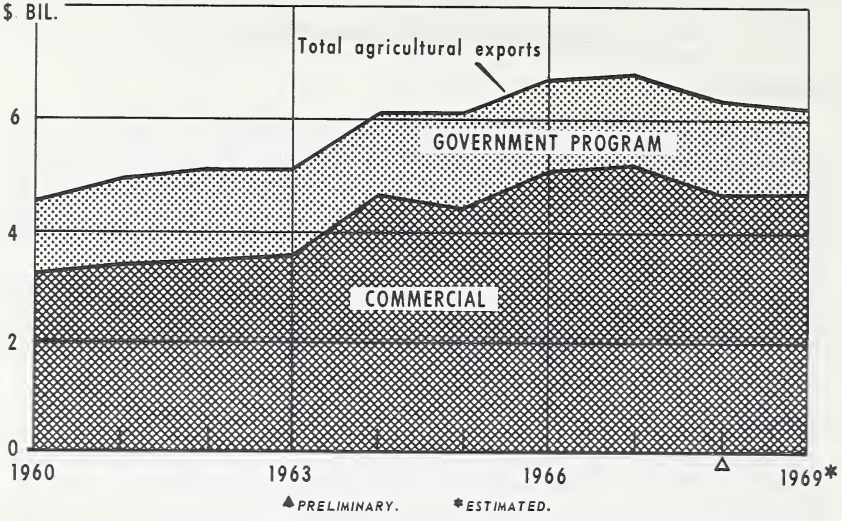
- With world supplies of major export commodities at high levels, U.S. government-industry-producer teams were sent to all leading markets to appraise needs and give assurance of U.S. supplies. As a result of market appraisals, new promotions were begun.

  During the first full year of large-scale Florida citrus promotion through brand name advertising in Europe, actual sales exceeded targets by 12 percent. Promotion costs were about one-fifth less than planned. In this program, one-third of the cost is paid by the foreign distributor, one-third by the Florida Citrus Commission, and one-third by the U.S. Government.

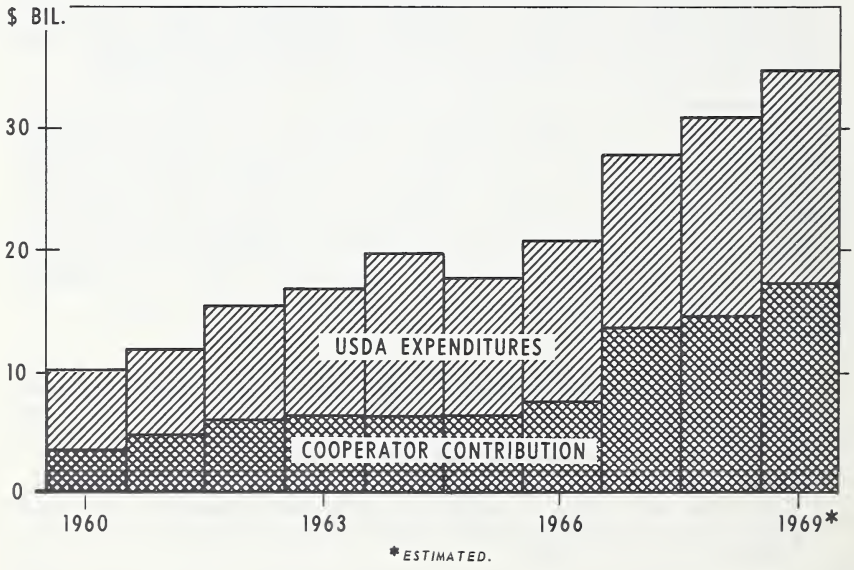
  A new program for promoting exports of U.S. forest products was launched. First steps were taken in cooperation with such prospective new export groups as the U.S. floral industry, Concord grape producers, quarter horse breeders, and mink farmers.

- A new approach to cotton export promotion began to pay off. The recently launched International Institute for Cotton reported a cotton comeback for men's and women's wear in Sweden, the United Kingdom, Japan, and other countries where internationally financed promotion campaigns are being conducted.

U.S. AGRICULTURAL EXPORTS: COMMERCIAL AND UNDER GOVERNMENT PROGRAMS



EXPORT MARKET DEVELOPMENT PROGRAM



- Exports of U.S. spring wheats to the three major European ports showed a one-third increase over the previous year—a continued payoff on a decade-long campaign by U.S. growers to reverse the image of U.S. wheat damaged by off-quality shipments of earlier years.

- The U.S. share of the United Kingdom rice market reached 59 percent. This is a sharp rise in the 4 years since American rice first began to be identified as such on retail shelves in that country.

- Intensified turkey promotion campaigns were successfully undertaken in Western Europe, Japan, and elsewhere to maintain the level of U.S. poultry exports in the face of continued world surpluses of chicken.

- In Tokyo, the world's largest city, we presented for the first time an exclusively U.S. food and agriculture trade exhibit aimed at our biggest farm export market. Results were outstanding. Twelve States and over 200 business firms participated. One State alone reported sales totaling nearly $1 million as a direct result of its exhibit. A mission of trade and government officials was warmly received and extensively publicized in Japan.

Food for Freedom

Shipments under Food for Freedom continued in 1968 at near the levels of earlier years—roughly $1.5 billion.

During fiscal 1968, 29 nations entered into P.L. 480 sales agreements, providing for the sale of commodities having a market value of $796 million. All of these agreements contained self-help provisions.

Good progress has also been made in carrying out the Congressional injunction of speedy transition from local currency to dollar credit sales. Nine countries made the transition, in whole or in part during 1967 and 1968, and at the end of fiscal year 1968 only nine countries were still receiving commodities in exchange for their local currencies.

Technical Aid

With increasing effectiveness, we have brought resources of the U.S. agricultural community into the war on hunger in Latin America, Africa, and Asia. Working with the Agency for International Development, 279 USDA resident specialists were living abroad and carrying out programs overseas at the end of fiscal 1968. During the year another 138 technicians served on short term assignments, and 72 in regional or worldwide projects.

During the year 37 Soil Conservation Service employees worked on overseas technical assistance programs under long-term agreements and 18 went on short-term assignments. SCS personnel worked in Brazil, Ecuador, Nigeria, India, Senegal, Thailand, Tunisia, Turkey, and Vietnam.

The Forest Service through cooperative agreements between USDA and AID, helped the Dominican Republic establish a forest fire control organization, aided Paraguay in achieving better utilization of timber, and assisted South Vietnam in the management of forest resources and the creation of local industries.

In Brazil during 1968 the Farmer Cooperative Service helped establish a new training center to give technical training to leaders and employees of new and existing cooperatives.

Japanese Visitor to the Tokyo Fair Samples American-Style Lemonade.

Japanese and An American Homemaker Discuss U.S. Pork and Beans.

What we do to train people is especially important. The less developed countries have graduated less than 20,000 agricultural specialists over the past decade. They would need 400,000 trained technicians just to bring their level of trained manpower up to the recommended goal of one expert for every 2,000 farm people. By contrast, the United States has one expert for every 170 farm people.

We helped to expand the supply of trained manpower through our Foreign Training Program. Aided by land grant universities, foundations, and private industry, we trained 4,410 agriculturists during fiscal 1968; 2,453 were from the less developed world, most of them sponsored by the Agency for International Development or the United Nations.

When their U.S. programs end, the training participants—who include ministers of agriculture, extension agents, students, bank officials, and regional farming administrators—go home to provide technical know-how vital to agricultural development.

For example, Raphael O. Opeka, who completed his training in 1967, now teaches 113 students at the Ibadan School of Agriculture in Western Nigeria. About 60 percent of these students will be employed by the agricultural extension service to teach farmers improved agricultural practices.

In Thailand, some areas have too much water for good crop production, others too little. Thunya Phosombut, who studied soil conservation in the United States in 1959, now supervises six water diversion projects to eliminate excess water on 153,000 acres, and three flood control projects freeing 109,000 acres from unpredictable floods. He introduced modern irrigation farming in the dry areas, built 133 small reservoirs, and through demonstration farms is teaching farmers how to grow crops other than rice under irrigation.

Taiwanese agriculturists who received U.S. training are now aiding other less developed countries. Some 350 agricultural technicians from 28 developing countries have been trained in the past 2 years with the help of Taiwan's U.S.-trained technicians.

Involving Private Enterprise

We recognize that while government has a key planning and supporting role in economic development, the real building job is done by private enterprise. This is why we regard with considerable satisfaction the growing interest of private enterprise in producing the new high protein foods which are so greatly needed in the developing countries.

- Vitasoy, a high-protein beverage developed and sold commercially in Hong Kong, now outsells one of the leading colas and has 24 percent of the soft drink market.
- The Pillsbury Company, recipient of the first AID Protein Food Studies grant, has now produced a protein beverage powder mix. We are working with Pillsbury to encourage full-scale production and distribution of the powder, called *Frescavida*, in El Salvador.
- The Monsanto Company has granted its first franchise for a highly nutritious soy based beverage, *Puma*, in Guyana.
- We have worked closely with the Coca-Cola Company which is now test marketing a protein beverage, *Saci*, in Brazil.

A total of 10 companies are studying the commercial feasibility of new protein food under AID's Protein Food Studies program. These studies should lead to investments in technologically advanced plants to make new protein foods from cottonseed and soya in many of the hungry nations.

COMMUNITIES OF TOMORROW

"The imprisoned town dwellers of the past have been apt to develop an ugly temper. . . . An inescapable city cannot be a seedbed for vegetables or cereals but it has often been a seedbed for riots and revolutions."

ARNOLD TOYNBEE

In the space of a lifetime America has changed from a predominantly rural society to one that is overwhelmingly urban, largely metropolitan, and threatening to become megalopolitan.

Today 70 percent of our people are concentrated on less than 2 percent of our land. In one of the most congested areas, parts of Harlem, people are so jammed together that if our entire population were equally concentrated, our whole Nation could live on Long Island leaving all the rest of the United States totally unpopulated.

This is rural-urban imbalance.

The need for balance is an elemental fact of life. We recognize this by a thousand phrases: A balanced economy, a balanced international situation, a balance of trade, a balanced education, a balanced diet. Whenever things get out of balance problems occur—and if imbalance goes too far, disaster results.

But only in very recent years have the American people become concerned about rural-urban balance. Yet this is a fundamental, a truly basic, factor determining the quality of life and living in our society.

Even now, however, it is likely to be shrugged off either as being not very important or impossible to achieve anyway. There are truly millions of intelligent Americans whose typical response to a plea for rural-urban balance is a kind of openmouthed wonderment or a dull resignation to the inevitable.

To say rural-urban balance is unimportant is to be myopic to an extreme. To say it is impossible to achieve is sheer defeatism.

The crisis of imbalance is perhaps the most serious internal problem ever to face us as a people.

Already it has produced a creeping decay of the countryside where communities have lost the economic base and population to support good schools, doctors, churches, social services—congestion, pollution, civic disorder and proliferating ghettos in the metropolis—a leapfrog spread and sprawl of suburbia.

Already it has resulted in a gross misuse of our national resources.

What phrase other than gross misuse describes the paradox of space-starved inner cities and opportunity-starved rural communities?

The question now is: How did America get this way?

The answer is, because as a Nation we failed to grasp the implications of the unprecedented technological and productive forces unleashed in our time.

We failed to plan for change, failed to develop public and private institutions and attitudes to shape and control the technological revolution, to make it serve society rather than begin to enslave it.

In the short period since World War II, U.S. population has grown by 60 million—44 percent.

The value of goods and services we produce each year has tripled—rising from $280 billion to almost $860 billion.

Three million farm units—almost half the total number in 1945—have disappeared in a technological revolution that is still sweeping through agriculture.

More than 20 million persons have left farms and small towns for the cities.

One-third of the urban population has left the cities for the suburbs.

And all of this took place willy-nilly—unplanned, unguided, uncushioned.

No wonder, then, that our cities—intended as centers of commerce, culture, learning and enlightenment, the jewels of progress—have become ugly and depressing centers of rebellion.

No wonder that rural America protests—because in its environs where only one-fourth of the Nation's people live are to be found half the Nation's poor, half the Nation's substandard housing, half the Nation's people receiving old-age and child care assistance.

We must not—we cannot—permit the deterioration of America to continue.

NATIONAL PLAN URGENTLY NEEDED

But it will continue unless and until the Nation evolves and determines to carry out a unified, clear-cut policy of balanced national growth.

If we are to achieve rural-urban balance in this country we need not piecemeal planning but comprehensive planning—and we need it nationally as well as locally *now*.

We must plan NOW for an America that offers a free choice of a good life everywhere—in the inner city, in the suburbs, in new rural towns, in small rural communities, and on the farm.

With modern transportation and communication it can be done. We need no longer be slaves to the railhead or the lakehead or the "big city habit."

We must plan NOW for an America that offers a free choice between a good life in the city and a good life in the country.

We have shown that we have mastered quantity in this Nation. Our material affluence is proof of that—complete with its 125 million tons of air pollutants a year and its 1 billion pounds of garbage.

But, as Emerson wrote, "the true test of civilization is not the census, nor the size of cities, nor the crops, but the kind of man that the country turns out."

We have yet to show that we can blend quality with quantity—that we can build a society that enriches man's spirit, enhances his dignity, offers him opportunity for knowledge and leisure and beauty.

It is becoming harder and harder for millions of Americans to achieve the "good life" today—and I do not refer solely to the poor and disadvantaged. We are all in danger of becoming "underprivileged" when our cities decay and our countryside deteriorates—when the water we drink is threatened with pollution and the air we breathe squeezes us like an octopus.

We can reverse the process of urban decay and rural deterioration, We can build a good life blended of quantity and quality. But we cannot do it without a comprehensive plan for rural-urban balance.

I take pride in the fact that the Department of Agriculture has been one of the leading gadflies stinging the Nation into an awareness of the need for rural-urban balance.

Prior to 1961 the activities of the USDA were, it is fair to say, primarily oriented to farm commodities. In the thirties, commodity pressures were overwhelming. In the forties, the Nation was concerned with agriculture's war and postwar role. In the fifties, emphasis on "freeing up" agriculture, in the mistaken idea that the market could and would take at reasonable prices all that farmers could produce, prevented the Department from coming to grips with rural problems that were by then obvious to careful observers.

Beginning in the middle 1950's efforts were made to set up a rural development program, but they hardly succeeded in getting off the ground.

BUILDING THE FOUNDATION

In 1961 we moved rapidly to mobilize USDA resources and personnel toward the eventual goal of a total program of rural areas development.

In March, a nationwide rural areas development program was established to aid local endeavors at redevelopment, under the general direction of a Department Rural Areas Development Board.

In May, the Congress passed the Area Redevelopment Act. It included rural areas among those eligible for assistance and delegated prime responsibilities to USDA to help in predominantly rural areas.

That same month, a national rural areas development conference, sponsored by the rural electric co-ops, pinpointed the tools local people would need to move ahead in developing new economic opportunities. Nearly 1,000 leaders of rural electric co-ops experienced in development work attended.

In November, a 34-member National Public Advisory Committee on Rural Areas Development was named to advise and counsel on the policies and programs required for an effective response to the call of local people for aid.

Meantime, State and local RAD activities were organized. The Farmers Home Administration, Federal Extension Service, and Rural Electrification Administration carried the major responsibilities of helping local groups get underway.

More than 500 rural counties were named as eligible for financial aid under the new Area Redevelopment Act.

The rural electrification, farm credit, and small watershed work of the Department were stepped up to make more resources available for rural development.

A new FHA housing program was authorized to build and improve housing of farmers and others in open country areas and small towns.

In January 1962, a National Land and People Conference was held in Washington and attended by some 500 leading citizens from practically all the States. Each person was asked to offer suggestions and comments in writing within a month on the preliminary report on land and water resources policy. Many excellent suggestions came in.

In May 1962, *Land and Water Resources—A Policy Guide* was issued, incorporating many of the ideas that had been suggested by citizens attending the National Land and People Conference in January.

In July 1962, the conservation and development agencies of the Department were reorganized.

In August 1962, an Assistant Secretary for Rural Development and Conservation was appointed and given responsibility over the agencies most directly concerned with these areas.

In September 1962, the Food and Agriculture Act of 1962 was enacted and signed into law. In many ways this act was a new charter for rural development and conservation.

In September and October 1962, five regional Land and People Conferences were held. Ten thousand local community leaders from the States presented their views in "town hall" type meetings on how to revitalize rural America. USDA officials participated. Among those present were some 1,500 soil conservation district supervisors. These and other community leaders were encouraged to sparkplug local efforts to revitalize rural America.

This was the foundation, and we have been building on it ever since.

OUTREACH

If rural America was to be revitalized, it was obvious that rural people had to become more aware of the services and programs available to them. Many available services were not being used by rural people to any appreciable extent because of inadequate communication.

We began a campaign of Outreach activating local USDA offices in all our agencies to help them take advantage of assistance and development programs provided not only by USDA but by all Federal and State agencies.

Outreach is assigned to Technical Action Panels in the field and to the Rural Community Development Service (RCDS), at the Washington level.

In Washington the Rural Community Development Service coordinates and expedites rural programs. RCDS maintains a close working liaison with other Federal departments as well as with the Appalachian Regional Commission and the other Regional Commissions to determine which programs and services are most useful to rural people and to measure the extent to which they are being used. It services USDA offices all over the Nation with information about program availabilities in other Federal departments. Local USDA offices in turn offer help to other Federal departments so their programs will reach rural people without heavy additional operating costs.

Within USDA, the RCDS works closely with all our agencies in developing policies and procedures that will enable rural people to make greater use of all Federal programs and services to meet local needs.

What TAPs Do

In the field, Technical Action Panels provide outreach at the grassroots. These panels are composed of USDA field officials, and other Federal, State, and local government leaders. They are directed to give

overall comprehensive community development the number one priority in shaping and carrying out all of their programs. Today any rural village, any rural group, any rural person, can get help in community planning and in locating the government agency that can best assist, simply by contacting the nearest Technical Action Panel.

Through June 30, 1968, regional TAPs had been formed to serve five of the multi-State Economic Development Districts.

District TAPs served 168 multicounty Economic Development Districts.

Fifty-one State TAPs were functioning, and 2,953 county TAPs were serving local communities.

Technical Action Panels have been instrumental in helping hundreds of communities and development groups work up comprehensive plans and carry out projects that have resulted in their obtaining needed services and jobs for local people. For example, through the outreach function, they have assisted in securing community facilities, housing, recreational projects, hospitals, loans for business purposes, industrial plants, business enterprises, health projects, and training programs. Many of these developments came about as a direct result of TAP initiative.

During fiscal 1968, TAPs helped rural communities initiate almost 1,000 projects in support of agriculture and forestry; over 1,600 rural industrialization projects; 6,454 rural community facilities projects; 6,370 health, education, and welfare projects; 4,072 training and retraining projects; and 4,649 recreation projects.

The TAPs also helped 3,799 groups to take initial steps in organization and planning for rural areas development.

More than 260,700 individuals and 8,395 groups were placed in contact with services from other Federal agencies.

Outreach should increase in effectiveness in the years ahead through continued training of TAP personnel at all levels.

COMPREHENSIVE PLANNING GRANTS

A second essential—besides Outreach—if rural America is to be revitalized is multicounty planning and development.

One of the most promising of the new tools in this phase of rural development is the multicounty Resource Conservation and Development (RC&D) project. Each project is "multipurpose" in the broadest sense of the word; each conserves natural resources in an integrated, well-planned manner; each brings jobs to local communities, conserving the human and economic base of rural America.

These projects are discussed more fully in the Resources in Action section of this report.

Another useful tool is the Rural Renewal Program.

Amendments to the Food and Agriculture Act of 1962 provided a nationwide action program to make loans and technical assistance available to local public agencies and private nonprofit corporations to revitalize and develop designated rural renewal areas.

These rural renewal loans not only serve as "seed money" for developing specific projects included in overall plans; they stimulate local people to obtain and use available resources of all agencies of Federal, State, and local governments and private enterprise for de-

veloping projects that meet specific community needs. Rural renewal programs are now operating in five pilot areas, and substantial economic progress is indicated in all of them.

For example, since 1964, in Little River County, Arkansas, 966 new jobs have been created in 77 new or expanded enterprises with a payroll of $6.5 million annually. Three new major industries have been established that provide 476 new jobs. Three industries have expanded providing 215 new jobs. Forty-three new businesses in new buildings created 180 jobs, and nine new businesses have provided 700 new jobs with an annual payroll of $3.6 million.

As of July 1, 1968, 42 rural renewal loans totaling $5.2 million had been authorized for the development of rural homesites, community facilities, and recreation and forestry areas and family farms.

It was not always easy sledding and there were some serious setbacks. But the concept of multicounty planning clearly blossomed in the 1968 amendments to the Housing Act of 1954. These give multicounty development districts in town and country America muchneeded financial, educational and technical assistance for planning and development.

Although the Departments of HUD, Commerce, and Agriculture have differing responsibilities for multicounty comprehensive planning in different areas, the program will be a single district planning program rather than several programs operated by cooperating agencies.

In those parts of the Nation outside of communities that include metropolitan centers, USDA has major responsibility for planning and coordination of multicounty districts.

In communities that *include* metropolitan areas, USDA has responsibility for coordinating agricultural and rural area development within such regions. This means assuring that the legitimate aspirations of "rural" cities, towns, villages, and the open countryside are adequately taken into account in broad overall comprehensive metropolitan regional planning and development.

Further, it means USDA will help the planning and development bodies make the best use of the countryside within metropolitan regions.

PROGRAMS FOR BETTER RURAL LIVING

The third essential for the revitalization of rural America is adequate programs to finance housing, water and sewer systems, and other essentials for good living. No less important are programs to help provide jobs and job training. Comprehensive planning will founder unless resources and programs are available to permit tangible progress.

Rural Housing

Improved housing, stimulated by a greatly expanded housing program, reflects the rising quality of living in rural America.

The Department of Agriculture is charged with responsibility for developing and coordinating housing programs for rural areas—not only through USDA programs, but through the extension of all other Federal, State, and private agencies that may assist in reaching this objective.

USDA housing programs include:

Above-moderate income housing loans.
Low-moderate income housing loans.
Low-moderate variable subsidy housing loans.
Delegated HUD guaranteed loan authority.
Rural rental and cooperative housing loans.
Farm labor housing loan and grant program.
Very low-income housing repair program.
Mutual self-help housing program.
Loans to develop building sites.
Rural trainee housing program.
Housing research.

From January 1, 1961, through June 30, 1968, the Farmers Home Administration made $1,775 million in loans to improve rural housing—compared with $199 million in the previous 7½ years.

This program has created nearly 142,000 man-years of on-site employment in rural areas.

It has provided new or improved housing for 875,000 rural people, including:

Housing for 25,000 senior citizens.
Modern housing for 19,200 domestic farmworkers.

Under our experimental self-help housing program, families, usually five or six of them, agree to contribute cooperatively all the necessary unskilled labor to build their housing under the supervision of a competent builder. The "labor equity" of the borrowers cuts the cost of construction from 25 to 30 percent. Thus, low-income rural families can build and own moderate homes for monthly payments considerably lower, in most cases, than they were paying in rent for inferior housing.

Approximately 1,040 self-help housing loans have been closed; of these, 537 were made in 1968 for a total of $4.0 million.

Cooperation with the Office of Economic Opportunity which has provided funds on some projects for purchasing tools and hiring experienced construction supervisors, has been successful and should generate rapid expansion of the program.

Total USDA rural housing credit has increased sevenfold since fiscal 1961. We are currently financing about 50,000 new or improved homes each year, providing decent housing for 225,000 rural people. Nearly all the housing loans are made by commercial sources and insured by USDA.

For the 8 calendar years, 1961 through 1968, FHA rural housing credit provided new or improved homes for about 1 million rural people, nonfarm as well as farm residents.

Water and Sewer Systems

Most Americans take public water and sanitation systems for granted. Yet only 8 years ago these "necessities" were not available to a fifth of the U.S. population. Of the 56,600 U.S. communities with more than 25 inhabitants in 1963, almost 35,000—representing 40 million people—lacked public water facilities. About 44,000 communities were without public sewage facilities. Most of these communities were small. Sixty-two percent of the almost 35,000 communities with populations under 1,000 did not have public water systems and 96 percent of them lacked public sewage systems.

New Federal programs enacted in the sixties to help finance community facilities began to change this picture.

From January 1961 through June 1968, FHA advanced nearly $600 million to rural communities to build these basic facilities for the benefit of rural people.

We are now providing almost 100 times as much assistance to rural communities for water and sewer systems as in fiscal 1961. In 1968 we helped over 1,000 communities get these facilities.

From the beginning of 1961 through 1968 about 3,500 communities have modernized their water and sanitary systems, benefiting about 3.8 million rural people. This is vital both in improving living conditions and attracting industry to rural America.

Economic Opportunity Loans

The rural American trapped in poverty usually must look to some form of self-employment, in farming or a small nonfarm enterprise, to improve his lot within his rural home community. But ability and willingness to undertake self-employment count for nothing unless he can get tools, supplies, and a place to work. Usually, this requires credit.

Since the Economic Opportunity Loan program began in January 1965, EO loans have helped an estimated 340,000 low-income rural people increase their incomes and climb to a higher standard of living. They use these loans to engage in or expand some form of self-employment on or off the farm.

Three out of five individual borrowers had family living incomes of less than $2,000 per year. The average annual increase in income is from $500 to $800, but some have doubled or tripled their incomes. The repayment record has been remarkable. Some borrowers are paying up ahead of schedule.

As of July 1, 1968, over $96 million in Economic Opportunity loans had been made to 47,600 rural families to establish small business or service enterprises or to improve their farm operations. Another $14.7 million had been advanced to 1,150 cooperatives serving some 20,000 low-income families.

Helping Farmers

Supervised credit programs are also playing a major role in helping low-income farmers climb the economic ladder. Since the beginning of 1961, roughly 100,000 farm families have been helped with farm ownership loans, enabling them to buy or enlarge their farms. Over a 5-year period the average farm ownership borrower has nearly doubled his gross and net cash income.

Recreation

Recreation is a fast-growing rural asset. For thousands of farmers it is now an income-producing "crop." For a growing number, it is their primary source of income. Recreation facilities are of growing importance to rural communities. A community that can boast a new swimming pool or lake, a pleasant public park or golf course, has an important advantage in attracting industry, holding its young people, and increasing property values. The "marketing" of recreation by hundreds of communities and thousands of farmers is pumping new life into rural America.

Several USDA agencies have programs of assistance for farmers interested in developing recreation facilities.

Since 1962 SCS technicians have aided more than 47,000 rural landowners and operators establish income-producing outdoor recreation enterprises. For over 8,000 farmers and ranchers recreation has become the primary source of income.

We have also helped more than 398,000 cooperators in soil and water conservation districts establish or expand noncommercial (nonincome-producing) outdoor recreation areas and facilities.

We estimate that in 1968 alone, 10,800,000 recreation "user days" of recreation resulted from the technical help given to farmers, ranchers, and other landowners.

Loans to help individuals shift entirely to recreation are also available.

ARS and State extension engineers help small farmers develop recreational uses for their land by preparing working plans for vacation cabins, camping shelters, picnic shelters, and other outdoor facilities. Recently released plans include a wind-resistant vacation cabin, an Adirondack-type shelter for camping or storage, a picnic shelter, and a concrete block incinerator.

Since 1962 when cost-sharing for recreation projects was authorized in a small watershed program, recreation developments have been included in 117 watershed projects in 33 States. When completed they will provide annually 8 million user-days of water-based recreation.

Recreation loans are made by Farmers Home Administration to help nonprofit local community groups and government units develop outdoor recreation facilities. Since 1963, when this FHA program started, loans totaling $84.5 million have been made to 636 associations.

The little town of Warren, Vt., for example, has struck a bonanza since 1960 as a result of recreation development in the Green Mountain National Forest. It has produced new stores, restaurants, hotels, motels, and guest houses as well as jobs in the Sugarbush Ski Area.

By 1980 a million new jobs will be created in rural America by recreation alone.

Creating New Jobs

It is difficult to gauge the job building effect of rural development. We estimate, however, that our rural housing and water and sewer programs alone have created more than 200,000 man-years of on-site employment since 1961.

More than 3,500 new business enterprises employing at least 50,000 rural people have been established as a result of conservation construction work carried out with the aid of the Soil Conservation Service.

Almost 250,000 jobs for rural people have resulted from projects established with the help of REA electric and telephone borrowers.

Since 1960, we have brought electricity to over a million new rural consumers and modern telephone service to almost a million new subscribers.

Economic development projects established with Extension Service help have provided hundreds of thousands of new jobs.

In addition, thousands of rural youth have been given new economic and educational opportunities through Neighborhood Youth Corps

projects, Civilian Conservation Centers operated by the Forest Service, and other aids to youth.

As of June 30, 1968, 40,000 young men had benefited from combined formal education and work training programs at 45 Civilian Conservation Centers operated by the Forest Service. Although the CCC program deals with the poorest of the poor, and takes on the biggest challenge in terms of low education levels, health needs, social development, and work experience, it has been extremely successful in rehabilitating hard-core disadvantaged youth.

In some rural locations, the Job Corps Center is the area's major industry. The communities benefit considerably from the improved forest resources provided by the Corpsmen. The appraised value of conservation improvements made through Job Corps operations is $12 million annually.

A citizens' Advisory Committee on Multiple Use of the National Forests has strongly urged retention of the Job Corps Conservation Centers.

Key indicators of progress for fiscal years 1960 through 1968 and expected 1969

Items	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
CUMULATIVE DATA FOR—										
Housing:										
Above moderate income families:										
Families assisted number							2,492	3,649	3,792	3,055
Loans—million dollars							31.6	47.7	50.0	40.0
Low-moderate income families:										
Families assisted number	4,962	8,198	10,834	20,450	20,612	18,468	30,422	45,272	51,073	68,350
Loans—million dollars	40.7	70.3	96.5	187.7	137.3	134.9	236.9	394.4	443.9	507.3
Water and sewer facilities:										
Families assisted—number	648	3,960	10,190	17,420	34,418	55,129	125,528	267,089	246,046	281,296
Loans and grants thousand dollars	710	1,945	10,002	13,833	33,369	50,086	130,811	197,431	186,203	207,500
Electric facilities:										
Consumers served thousand	4,767	4,891	5,014	5,157	5,301	5,440	5,605	5,762	5,913	6,063
Loans—million dollars	220.1	274.5	261.5	341.0	261.5	380.0	311.8	352.4	350.0	345.0
Telephone facilities:										
Subscribers served thousand	1,065	1,220	1,356	1,478	1,581	1,681	1,781	1,890	1,990	2,085
Loans—million dollars	105.0	142.4	91.6	86.3	90.0	97.0	101.0	119.0	119.9	125.0
Water and sewer planning grant program:										
Counties assisted cumulative number							136	581	1,252	1,627
Grants—million dollars							1.3	3.5	5.0	4.5
Resource conservation and development program:										
Operating projects cumulative number						10	13	21	29	44
Program cost million dollars					0.4	1.1	2.3	5.9	8.2	7.4

Rural renewal program:									
Operating projects, number				4	5	5	5	5	5
Program cost, million dollars				0.9	0.9	1.1	1.4	1.7	1.6
Outreach program:									
Active technical action panels, number	151	1,551	2,938	3,045	3,026	3,077	3,026	3,172	3,176
Cost of outreach, million dollars					(1)	(1)	(1)	(1)	5.6
Grazing association loans									
number			1	9	26	72	75	99	170
million dollars			.4	3.3	13.0	18.8	19.0	13.1	25.0
Recreation:									
Loans to individuals									
number			57	170	169	155	129	99	750
dollars			374,839	1,027,770	862,830	1,170,840	831,160	631,770	15,000,000
Loans to associations									
number			16	67	91	140	220	218	190
million dollars			1.272	6.616	9.961	15.557	29.434	23.080	30.1
Farmers helped for income-producing enterprises, number				9,396	5,035	4,266	3,802	2,412	4,000
Farmers helped for noninc-come-producing enterprises, do							34,232	37,766	35,000
Cropland converted to wildlife and recreation uses, acres				32,164	71,143	61,993	67,017	75,298	65,000
Rural noncropland converted to wildlife and recreation uses, do				161,855	213,059	248,538	367,512	269,729	260,000

[1] Cost not separately measured.

THE FUTURE

We have referred to the need for a national policy for land and people. We must devise a framework within which farm and nonfarm rural America and suburban and central city urban America can be re-created into a total environment pleasing to the eye, encouraging to the spirit, and responsive to economic needs.

People can be nurtured by their communities or imprisoned by them.

Our goal is to help people shape the processes that will build our communities of tomorrow.

The full participation and support of private enterprise and government at every level—local, State, and Federal—is vital.

Federal assistance can tip the balance from decline to growth, but it cannot do the whole job.

The community of tomorrow must be functional and viable, built on thriving and growing private enterprises that find it advantageous to themselves, as well as the community, to provide jobs in nonurban areas.

It must be a balanced community geared to the needs and wishes of human beings. Such a community provides not only the jobs, but the facilities, public and private, as well as the social and cultural amenities people need to live a full life.

It is sufficiently large to operate as a fully effective economic, social, and cultural unit.

The boundaries between rural and urban blur out. The old differences between things agricultural and things industrial are no longer valid. The quality high school, the community college, the area vocational school; the facilities for rich cultural and esthetic opportunities; the parks and recreational areas are all a part of the balance that provides the element of quality that makes development both worthwhile and possible.

Forms of communities of tomorrow will vary from area to area.

In some areas one or more small cities or towns will serve as the center of employment, social services, shopping and cultural facilities.

In others, new towns, complete with jobs, homes, and community facilities will be built where there is now no town at all.

In still others communities will form around scattered activities, all linked with ultra-modern communication facilities designed to minimize the effects of distance.

Some communities will be built around a single kind of enterprise. Not all communities will want the same kind of mixed economy.

Others again will be developed to follow patterns not yet proposed and not yet designed—communities depending on technologies not yet available or discernible.

We know the criteria that defined communities in 1900 are obsolete today, and that today's criteria will probably be obsolete by 2000.

The construction of community development processes cannot assume an exclusive kind of community.

But certain goals may be assumed:

- We must bring the housing and community facilities of town and country America up to the standards of the second half of the 20th century.

- We must take the pressure off the cities and enable Americans to live in the environment of their choice by improving all environments and by providing opportunities to make a living in all environments, city and rural.

Here, specifically, are some of the goals we as a people need to achieve.

Outreach

Outreach needs to be increased in effectiveness during the years immediately ahead through continued training of TAP personnel at all levels.

Technical Action Panels will assume major outreach responsibility for assuring rural areas full participation in the provisions of the Housing and Urban Development Act of 1968. In particular, the New Towns provisions and the Nonmetropolitan District Planning provision will require significant effort by TAPs.

A district TAP needs to be formed to coincide with each designated nonmetropolitan planning district, to assist in the organization and formation of the district, and to the maximum extent in developing and implementing plans.

Projections for 1974 indicate that rural development specialists, devoting full time to outreach programs and services, will need to be stationed in 385 of the 1,000 lowest income rural counties.

RCDS will need to continue and improve its liaison and information functions with non-USDA agencies, acting as "Secretariat" for the Rural Areas Development Board and other appropriate groups.

The first nationwide rural needs inventory was conducted in 1967. Already it is proving to be a very effective indicator of the geographical areas where various assistance programs (health, housing, job training and opportunities, etc.) are urgent. We will need a continually updated inventory.

Housing

All substandard housing in rural America can, and should, be removed within a decade. This is one of the goals of the Housing and Urban Development Act of 1968 which provides for interest supplement payments to low-income rural families that can bring interest rates down to as low as 1 percent.

Construction and rehabilitation of 5 million housing units in rural America will be required to meet the goal. Of these, 3.9 million would require some public assistance.

In fiscal 1968, 54,000 housing units were constructed, purchased, or rehabilitated under the USDA rural housing program. To meet the goal of adequate housing by 1978, rural programs need to be expanded to an average level nearly 7 times the fiscal 1968 level.

Water and Disposal

It is estimated that today 5.9 million rural families still lack adequate water facilities and 3.9 million lack adequate waste disposal facilities.

About 12,000 communities with 1.2 million families will require grants for water systems, while 23,000 communities with 2.3 million families will require grants for waste disposal systems.

Despite the immense progress of recent years, needs are still increasing more rapidly than we are able to assist with facilities.

Legislation enacted in 1965 provided for grant assistance in the preparation of comprehensive water and sewer plans. This program has grown from 136 counties and $1.3 million in grants in 1966 to 671 counties and $5 million in grants in 1968.

Of the 3,049 counties in the United States, 654 have completed plans for water and sewer systems with private funds, HUD funds, or other funds besides those administered by the Farmers Home Administration.

Of the remaining 2,505 counties and districts, 1,252 counties had received initial grant funds, but 1,253 counties still needed initial assistance at the end of fiscal 1968. Four hundred and fifty will be served in fiscal 1969, leaving 803 to be served before Oct. 1, 1971, when counties without such plans will be ineligible to receive water and sewer development grants.

Electricity and Telephones

In fiscal 1968, Rural Electrification Administration electric borrowers served about 6 million establishments—homes, farms, businesses—or about 98 percent of the rural establishments in REA borrowers' service areas. About 50,000 farms in the United States, and as many or more nonfarm rural establishments, still lack electric service.

REA borrowers face the requirement to increase sharply their electric distribution facilities as (1) consumers use more electricity and telephones, (2) more industrial consumers depend on REA, and (3) population of REA-served areas increases. Rural consumers purchased 55.8 billion kilowatt-hours of power from REA in 1968. By 1974, consumers are expected to need more than 92.4 billion kilowatt-hours of power.

By the end of fiscal 1968, there were 2 million telephone subscribers to REA service—about 70 percent of the establishments in the REA borrowers service areas. By fiscal 1974, the figure is expected to be 2.5 million.

The REA 2-percent loan system has proved to be one of the most promising influences in the development of rural America. It needs to be continued for those who require it. Cooperatives should be encouraged in their present effort to develop a new source or institution to finance the additional credit requirements that cannot be met by the 2-percent loan program.

To meet the needs of REA distribution borrowers in the fiscal years 1970–74 period, $1.3 billion will be required from all sources. To meet the increasing needs of REA telephone borrowers, an estimated $1 billion will be required from all sources.

Poverty Loans

Although we are pleased that 47,600 rural families have received individual EO loans and some 20,000 more have been aided by loans to cooperatives, we must point out that they represent only about 2 percent of all rural households with incomes below poverty levels.

These loans have the greatest return in increased income per dollar loaned of any made by the Department. The future need is obvious.

Rural Renewal

The five pilot rural renewal areas have proved highly successful. The projected need by 1974 would require rural renewal programs to be in operation in 200 designated areas of the 1,000 lowest income counties in the United States.

Additional authorizations are needed to provide the tools, programs, and services to meet these demands of the immediate and near future.

In summary these include:

- *A new program to facilitate the construction, purchase, or rehabilitation of adequate housing* for most of the estimated 400,000 families who will continue to have, over the decade, incomes too low to qualify for current programs.

The following needed supplemental programs will require new legislation:

- *A housing assistance program* for those who lack adequate housing and do not have the ability to repay loans with interest.
- *Authority for insured loans* to individuals to build their own homes with one to three rental units in the same building.
- *Authority for nonprofit organizations* to obtain credit and grants to build and acquire low-cost housing.
- *Authority to transfer certain assets from labor and rental housing* from the Agricultural Credit Insurance Fund to the Rural Housing Insurance Fund.
- *Authority to make occupancy requirements* for senior and nonsenior citizens the same for rental and cooperative housing, and also remove any income limit on certain types of multiple housing.
- *Authority to make rural housing loans to any qualified urban residents* to buy a lot or an existing home in a rural area or to occupy rental or cooperative housing.

Experience has proved that ample credit is a powerful engine for rural revitalization. New authorizations are needed to expand credit programs for public facilities and business growth in rural areas including:

- *A Rural Community and Neighborhood Center Program* to authorize grants and long-term loans to public bodies and nonprofit organizations for constructing or improving multipurpose community centers in low-income rural areas. Such facilities are needed to help the rural communities benefit more fully from programs providing recreation, health, education, and other social services.
- *Incentives to locate industrial plants in rural areas* through loans, grants, or other incentives at a program level that will make a significant impact on the revitalization of rural areas.
- *Changes in insured water and sewer loans to public bodies* to utilize more of the credit resources of the private market.
- *Rural telephone supplemental financing* by amending the Rural Electrification Act to establish a Rural Telephone Bank, and also a loan account that would reflect the annual loan authorizations and budgetary expenditures for the 2-percent telephone loan program on a net basis.

Authorizations are needed also for further development of other multicounty programs. It is now time, for example, for the RC&D program to move from a pilot stage to regular program status. There are an estimated 141 multicounty areas with major identifiable resource problems that should be provided with RC&D program planning and implementation assistance by 1975.

By 1974, it is projected that comprehensive nonmetropolitan district planning should be expanded from 270 to 350 nonmetropolitan districts. Adequate USDA technical and organizational support must be provided for these districts as they develop.

To some this planning for the future may seem an impossible dream. They say: We can't afford it. We can't plan that well. We can't tell people where to live.

Such complaints are the product of a shameful defeatism.

True, by the standards of the past what is proposed seems a gigantic undertaking. But we are not living in the past. We are living in a rapidly expanding *now*—a now in which knowledge and technology and the means to put knowledge and technology into effect are growing at a phenomenal rate.

We have no real choice. We *must* restore balance or give up our ideals.

Other nations are already embarked on such a course. In England, for example, more than 20 flourishing new cities have been built—somewhat like those in our Town and Country concept—and more are being planned. This is to counteract what Barbara Ward called the "sucking pull" of the London area.

If England can do it why can't we? We have more space to work with. We have far more wealth. We have more and better technology.

We *can* do the planning that is necessary. The computer is the genie that has changed the whole picture. The computer almost instantaneously answers questions that a small army of statisticians would take a year to reply to.

We *can* afford to carry out virtually any blueprints we might develop. There is every reason to expect our gross national product to grow by not less than 3 percent, and possibly by more than 4 percent per year. This means between now and 1980 an average addition to our gross national product of some $40 billion per year.

As for telling people where to live, nobody wants to do that. People go, if they can, where opportunity beckons. Public opinion polls indicate that, if jobs were available, 56 percent of the American people would live on farms or in small towns rather than in cities and suburbs. By revitalizing rural America we can give the American people a choice.

The American dream is to build a society that enriches man's spirit, enhances his dignity, and provides all the elements of a good life.

That is why the people of America will go forward in their work of establishing rural-urban balance.

Addendum

ACHIEVEMENTS—1968

Emphasis on Citizen Participation

We have given major emphasis to increasing citizen participation in community decision making and community development. In 1960, the Extension Services were working in pilot community development projects in only a few States. Today, Extension is working with over 8,800 citizens' groups including more than 195,000 persons involved in community development projects in the 50 States, Puerto Rico, and the Virgin Islands.

In 1961, the Arkansas Extension Service began a concentrated effort to help local leaders understand the many economic and sociological changes underway in the State. Extension helped organize County Development Councils in all counties. Subcommittees were organized in agriculture, family living, recreation and tourism, health and welfare, industry, community facilities, and education.

Through this approach the various subcommittees receive sufficient assistance so that they can identify county problems, establish goals and develop a plan to reach these goals. This is known as the Overall Economic Development Program.

During the period January-June 1968, Extension assisted in the planning and operation of more than 6,300 natural resource projects and in the planning or developing of nearly 5,900 community resource projects. The agency also conducted 4,650 training schools for county government officials and community and civic leaders with more than than 90,000 persons participating.

Community Water and Sewer Systems

More than a million rural Americans in 1,043 communities will benefit from funds advanced to build and improve water or waste disposal systems in fiscal 1968. Loans totaled $162.6 million, and grants exceeded $23.7 million. Another $5 million in grants was advanced to 463 rural public bodies for preparation of area plans for water and sewer projects.

For years Warren County, Tenn., had been losing population; its towns were withering and dying. In 1963, FHA began making loans to five Warren County towns to install community water systems. A total of $1.4 million was advanced. HUD advanced another $300,000 to finance 30 miles of water lines.

Today Warren County is on the move. Four new industrial plants have located there and a fifth is being negotiated, with 1,500 jobs in view. Seventeen small businesses have started up. Over 300 new rural homes costing $3.5 million have been built. Nearly 500 homes have been remodeled. Almost $1 million in community building improvements have been made. The State of Tennessee has purchased a $500,000 tract in the county for a new park. Farm income has been raised susbtantially, and the county is steadily growing in population.

Electricity

Among the most potent forces to upgrade rural living in terms of convenience, communication, and commerce are electric power and adequate telephone service.

Slightly more than half of the 3.1 million electrified farms in the United States are served by Rural Electrification Administration borrowers.

REA loans are sound investments in the future of America.

During fiscal 1968, REA loaned $215.2 million for construction of distribution lines that will serve 193,994 new rural electric consumers and provided expanded facilities to meet growing power requirements of existing consumers. In addition, the agency approved loans totaling $135 million for generation and transmission facilities to assure adequate supplies of power for distribution systems.

REA has been working with local people in Alaska, other Federal agencies, and the State government to develop a workable plan for providing electric service to some 30,000 Alaskans in remote native villages who still do not have electric power.

The newly organized Alaska Village Electric Cooperative, with headquarters in Anchorage, received an REA loan to finance installation of 52 individual diesel generating plants and related facilities. These will be the source of electric power for 59 villages, including 20,000 native Alaskan Eskimos, Aleuts, and Indians.

Representatives from the villages will make up the Cooperative's board of directors. A centralized headquarters staff will provide administrative functions, including a program for stimulating economic development in the villages.

Telephones

With the accelerated drive for recreational, commercial, and industrial development in rural areas, improved telephone service has assumed new significance. The eight-party service of years back is no longer adequate to meet today's subscriber demands. Over one-fourth of the subscribers on REA-financed telephone systems now have one-party service. Our goal is to reach 52 percent by 1975.

Four out of five farms now have telephones, compared with only one in three in 1949, and 99 percent of today's service is dial.

During fiscal 1968, REA approved 162 telephone loans totaling $120 million to finance new or improved service for nearly 100,000 subscribers.

Steady progress is being made toward our goal of modern, all-dial, rural telephone service under rates and conditions comparable to those available to urban subscribers. For example, the Otto Telephone Company, Duke Center, Pa., a small, independent company, is upgrading telephone service for all of its subscribers. The hand-crank wall box telephone was once a familiar sight in farm and rural homes of the area. The last of these antiquated instruments came down from a farm wall in October 1968, marking the beginning of a new era for the company's 437 subscribers. When the upgrading is completed, 80 percent of the subscribers will have single-party service and the rest will have two-party service. Direct distance dialing will be available to all.

Extending Rural Horizons

Next to the lack of good job opportunities, rural America's greatest handicap is its obvious disadvantage in housing.

As much as any other element on the rural scene, improved housing reflects the revitalization of rural America.

Rural housing credit advanced through the Farmers Home Administration, augmenting credit available from conventional lenders and other agencies, enabled more than 56,000 rural families to purchase, build, or improve their homes in fiscal 1968.

Housing as it often exists in rural America.

Air view of housing project for migratory farm workers.

It created nearly 40,000 man-years of on-site employment during the year.

Of the total rural housing credit assistance advanced in fiscal 1968, $461.3 million was borrowed by individual rural families, other than senior citizens; $12.3 million went to 4,500 individual senior citizens; $13.2 million was advanced for construction in improvement of rental housing units for 5,300 rural residents; and $7.2 million in loans and grants provided for low-rent housing for domestic farm labor.

Mr. and Mrs. Joe Jefferson and their family of seven children live in the Negro community of Triana, Ala. A general laborer in Huntsville, Mr. Jefferson seldom earns more than $3,000 a year. For years the Jeffersons lived in a dilapidated shack, all they could afford. In the fall of 1968, they moved into a new modern home financed through an FHA-insured loan of $8,970. The total annual payments for the new home, including taxes and insurance, will be $320—less than the rent they formerly paid for the shack. The new Housing and Urban Development Act of 1968 made this low payment possible. It provides for interest supplement payments that can bring interest rates down as low as 1 per cent. On the Jefferson home, the Farmers Home Administration will stand the cost of the balance of the installments, amounting to $249 a year.

Our USDA engineers have designed rural housing plans for low-income families, elderly people, and migrant laborers.

Detailed plans have been developed for three types of low-cost rural homes, each using a maximum amount of wood construction. Estimated construction costs for these three-bedroom, 1,000 square foot homes are about $6 per square foot exclusive of land costs and exterior service connections. These designs have been accepted by the Farmers Home Administration.

Only 10 percent of the new homes built in rural areas from 1960 to 1966 were constructed as a result of a direct or insured loan from a Federal agency or a Federal land bank. Only about 6 percent of the home repairs were financed with the help of a Federal agency.

Obviously, the task of helping the rural poor obtain adequate housing has only begun.

Farm Ownership Loans

FHA advanced more than $205 million to 10,800 farm family operators during fiscal 1968 to help them buy, develop, or enlarge their farms. This was nearly five times as much as in 1960 when $44 million was advanced in 2,966 loans. Besides the loans negotiated in 1968, another 87,000 farm families continued to use this type of credit obtained in previous years.

Since January 1961, FHA has made 92,150 farm ownership loans totaling more than $1.5 billion. Losses are less than one-half of 1 percent.

Our latest survey shows that on the average during the past 5 years, FHA farm ownership borrowers raised their gross cash income from $11,802 to $19,783 and increased net cash income from $5,093 to $9,281.

Operating Loans

During fiscal 1968, FHA also advanced $275 million in operating credit to more than 52,300 farm families. As of June 30, 1968, approximately 94,000 farm families were using this type of credit, including those who had negotiated loans in previous years. Since January 1961, FHA has advanced nearly $2.3 billion in this type of credit.

Mr. and Mrs. Andrew W. Cope, an industrious couple in their early forties, and their two children, own and operate a 322-acre farm in Macon County, N.C. Located in a mountainous region, the farm has little cropland. In 1964 the Cope's gross income was less than $2,000. That year they borrowed $41,110 through an FHA farm ownership loan and turned their farm into a recreation and fish farming enterprise. Cabins, a campsite, a lake and bathhouse and rearing ponds to produce mountain trout were built. During the next 2 years FHA extended operating loans totaling $5,500 to buy additional equipment and to purchase trout fingerlings. Today, 4 years later, the Cope's net worth has risen to more than $35,000 and their gross income is over $25,000. On May 24, 1968, the Andrew Cope family was chosen as Farmers Home Administration's Farm Family of the Year in North Carolina.

Economic Opportunity Loans

During fiscal 1968, FHA made 12,120 individual loans totaling $22 million. Loans to 357 cooperatives, involving 5,800 families, amounted to $5 million.

Occupations taken up by EO borrowers range through more than 350 different kinds of small enterprises. They include mechanical and electrical repair, sewing, carpentry, plumbing, woodworking, tree cutting, lawnmowing, painting, shellfishing, cleaning and pressing, recreation services, bus lines for industrial workers, handcrafts and native arts, barbering and beauty services, shoe repair, food specialties, and small general stores in remote rural communities.

Arnold Hansen, Benson, Minn., was always a good all-around handyman, especially good with electric motors. But in his predominantly rural community, he seldom made more than $2,000 a year, and often less. In April of 1967, he borrowed $1,100 through an FHA Economic Opportunity loan to set up and equip an electric motor repair shop. In his first year he cleared more than $3,300, almost double his previous year's income. He hopes to do much better. He needs to, because his family has incurred high medical expenses. One child had polio and two members of the family are suffering from eye cataracts.

Creating New Jobs

The revitalization of rural America is getting results in expanding job opportunities.

Consider the rate of gain in employment in private nonfarm industries. During the 3-year period, March 1959 to March 1962, this rate of gain in metropolitan areas—the large cities and their environs—was 1.4 percent annually.

In that same period, rural areas—nonmetropolitan counties with no town of 2,500 or more people—had an annual gain of seven-tenths of 1 percent, and small town areas—those with population centers between 2,500 and 5,000—grew at a rate of only one-half of 1 percent.

During the past 7 years, however, this picture has been drastically changed. Almost half of the "million dollar" plants opened in 1966 were outside the large metropolitan areas.

From 1962 to 1967, the annual rate of increase in private nonfarm employment tripled in metropolitan areas, but rose by eightfold in entirely rural areas and tenfold in small town counties. Absolute increases in metropolitan jobs still far outnumber those in rural and small town areas, but the improvement in the latter areas from a nearly stagnant earlier situation is most encouraging.

Migration to the large cities, while still going on, is slowing

Whereas, from 1950 to 1960 nonmetropolitan counties lost an average of 597,000 people a year, this shrank to an average of only 118,000 people a year during the 1960 to 1963 period.

Role of USDA Agencies

USDA agencies are contributing substantially to increased rural employment.

In many areas rural electrification has been the key to recreational and industrial development.

In fiscal 1968 alone, 31,000 new jobs were created through 637 industrial, commercial, and community facilities projects launched with the assistance of REA-financed rural electric and telephone systems. This brings to 247,000 the total number of jobs made possible since 1961 with the help of REA borrowers.

The Green River Rural Electric Cooperative Corporation, Owensboro, Ky., is an outstanding example. As of September 1968, this co-op working with community leaders, was instrumental in bringing into Hancock County:

Harvey Aluminum, a $50 million rolling mill at Lewisport, employing 500 people.

National-Southwire Company, an aluminum reduction mill under construction at Hawesville, where plant costs may go as high as $116 million, providing 600 jobs.

An aluminum rod and cable mill, planned by National-Southwire at Hawesville. This plant may cost $8 million and will provide 150 jobs.

Extension workers have helped create thousands of jobs through Community Resource Development programs—over 53,000 in 1968 alone.

More than 1,750 new jobs, over $2.5 million in new payroll, and $76 million more invested in industrial and commercial enterprises, community facilities and public services—this is the record since Extension's Resource Development Program began in St. Clair County, Ala., in 1962. The county was classified as "severely depressed" in 1960.

These totals do not include 200 new jobs and $10 million in new investments and projects indirectly related to the RD program.

Since 1962, $14 million have been invested in 40 major commercial recreation and tourism projects. More than 300 new jobs have been created with an annual $1 million payroll. An additional 300 jobs were created in service enterprises supporting these developments.

The county Extension office is the nerve center for County RD Committee activities. Many of the 75 community leaders who attended the first organizational meeting in 1962 are still active.

We have urged the Nation's co-op leaders to expand and develop cooperatives, to locate new plants in the countryside whenever they possibly can, and to search diligently for new ways to bring the benefits of cooperation to more rural Americans.

To facilitate these efforts, we reorganized the Farmer Cooperative Service.

The board of directors of a vegetable co-op at Sunset, La., following FCS management recommendations, increased its returns enough to provide over $135,000 additional income to more than 300 low-income families in fiscal 1968.

FCS helped train directors of a vegetable marketing co-op in North Carolina, and established a management review team. This co-op made $14,000 for its 74 members the first year and has revitalized its community.

Extension helped a group of low-income farmers in Mississippi increase their income by nearly $100,000.

These farmers needed an enterprise that would yield high returns from limited land resources, require little capital investment, and provide employment for family members.

Extension helped them set up a cucumber enterprise and get contracts with a pickle firm. The farmers realized a gross income of nearly $250 an acre from a total of 407 acres.

Research Helps Create Jobs

Research is instrumental in keeping some communities prosperous and in restoring prosperity to others bypassed by technological developments.

Improvements in poultry processing techniques worked out by our Agricultural Research Service have created new jobs in about 400 plants located in low-income areas of nearly every State. A new method for stabilizing nutrients in alfalfa and other forages opens up many new jobs every year in about 175 alfalfa dehydrating plants, scattered nationally. New convenience foods, as well as new processes for wash-wear cottons, also provide additional employment.

The Michigan Cooperative Extension Service is helping create increased demand for lower grade lumber along with additional jobs in small furniture plants.

Using data collected at seven plants, Extension specialists demonstrated that the use of lower grade lumber could reduce rough lumber costs by about 36 percent—or $82,000 a year for the average plant in Michigan. Using the lower grades requires more labor, but the cost reduction more than offsets the larger payroll and leaves the plant with substantial savings.

Economic development research is valuable in planning for rural growth. Our Economic Research Service studies annual gains in job opportunities in rural areas. It correlates the economic and social characteristics of different counties with the growth experience of various manufacturing industries. This can help counties and industries plan more effectively for mutual growth.

ERS studied the total business activity of a 10-county area in North Carolina to determine what effects would flow from wider markets for locally produced products. The study found, for example, that an increase of $1 million in the beyond-local market (that is outside the 10-county area) for local farm production would add about $4 million to local business activity. It would create roughly 300 more jobs: 230 for males and 70 for females. About 100 new jobs would be in agriculture, and the rest in related industries, including processing and in transporting farm products.

Aids to Youth

Thousands of underprivileged young people took advantage of Job Corps Civilian Conservation Centers and Neighborhood Youth Corps programs located within National Forests during 1968. The Forest Service operated 45 Civilian Conservation Centers with an enrollment of 8,000. Vocational training and education programs enabled thousands of young men from these centers to get jobs, return to school, enter military service, or enroll in advanced training programs.

In cooperation with State Foresters, the Forest Service had 5,000 participants in Neighborhood Youth Corps projects. Over 6,300 young people had National Forest summer jobs, and 250 were employed through college work-study programs.

A Job Corps classroom.

Job Corpsmen learn about repairing an automobile engine.

Four young men recently graduated from the Flatwoods Job Corps Conservation Center in the Jefferson National Forest in Virginia. Each had been a school dropout. They remained with the Job Corps program for the maximum period of 2 years. As they studied at the center, their attitudes about education changed. The work they did at the center and in the forest gave them new job skills.

One has been hired by the Forest Service as a forest worker, another as an operator of a trail-making machine. A third returned to his home in Missouri to work as an orderly in a local hospital. The fourth graduate also returned to his hometown, equipped with skills in carpentry and masonry.

Each year since the Youth Opportunity Campaign began, USDA has exceeded its youth employment goal.

Our agencies hired approximately 3,100 youths during the 1968 summer—almost 1,000 over the goal.

The campaign enables youths to earn money during the summer to help support their families, or to pay for school supplies, clothing, and tuition. Many times the summer job is the deciding factor between their dropping out or completing high school or vocational training or seeking a college education.

Edwin Hunter began his sophomore year at North Carolina A&T State University in 1968. Edwin received high praise for his work in the Office of the General Counsel during the summer of 1967 and was reemployed with OGC this year. His earnings will be used to help pay college expenses. He is majoring in biology and hopes to become a medical technologist.

Linell Stevenson was employed by the Soil Conservation Service State Office in Temple, Tex. An efficient typist, Linell has worked four summers at the SCS office under the Youth Opportunity Campaign. She is a music major at Huston-Tillotson College in Austin and will enroll in the Juilliard School of Music in New York City upon graduation.

Cleveland Hall worked for the Agricultural Research Service. He developed skill in handling insects in biological studies, prepared artificial rearing media, and assisted in applying sprays in field plots. He also became adept in using a dissecting microscope. He is at Morgan State College where he will major in psychology.

RESOURCES IN ACTION

"From birth to death, natural resources, transformed for human use, feed, clothe, shelter, and transport us. Upon them we depend for every material necessity, comfort, convenience, and protection in our lives. Without abundant resources, prosperity is out of reach. Therefore the conservation of natural resources is the fundamental material problem.

GIFFORD PINCHOT

It is not generally recognized that, within the Federal structure, the Department of Agriculture is a major conservation Department.

Few Americans realize the magnitude and importance of the resource conservation and development work done by the USDA.

Its conservation activities account for about half of the total work of the Department.

It administers programs covering conservation and development of about 81 percent of the Nation's land. This includes all the cropland, the grassland pasture and range, and the forest land in the national forests and in private ownership.

It is the Federal department that has "first" responsibility for the water that falls on this 81 percent of the Nation's land. It has extensive programs of controlling, conserving, and developing this water where it falls—on the private lands in agricultural and other uses, and on the forests.

It administers 187 million acres of national forests and national grasslands.

It administers Federal programs dealing with 450 million acres of forest land in private ownership.

It conducts extensive programs of physical and economic research that cover the entire field of natural resources.

Its programs directly aid the Nation's fish and wildlife habitat.

It administers the bulk of the Nation's Wilderness Areas.

It creates outdoor recreation opportunities in rural areas on farms and ranches and in National Forests and other forest-related areas.

Its conservation programs contribute greatly to natural beauty of the countryside.

THE PROBLEMS

An imperative national need is a creative, viable conservation that improves, protects, and enhances our natural resource base of soil, water, and plants at the same time it is being used for the good of all Americans.

This resource base is in jeopardy because never before in American history nor in the history of civilization have we experienced such an unprecedented impact of a dual explosion of population and technology upon limited basic resources.

We have achieved the world's highest standard of living in an amazingly short period by using the vast natural resources of the American environment. But this has been accompanied by side effects that we did not forsee. Our capacity to alter nature is awesome, but we have caused alterations with little regard for the consequences.

In advancing and perfecting our technology we have polluted our waters, eroded our soil, silted our reservoirs, destroyed our recreation areas, and—in other ways and to a frightening degree—diminished our environment.

Meanwhile, our Nation grows at a tremendous pace. Within the next 32 years our population is expected to increase by one-half, while our land area remains the same. We will continue to receive the same amount of fresh water from the skies, but we will need twice as much. We will be fed from the same thin layer of topsoil that feeds us today, but we will need one-half more food from that soil.

Pressures on land use will intensify greatly. Housing for another 100 million Americans will be built; roads for three times the number of cars as today will be constructed; land required for outdoor recreation needs will more than double; and means to dispose of another million tons of solid waste each year will have to be found.

If we are to survive, we must look to the land—its soil, water, plants, and animal life—with renewed interest and develop a will to support a comprehensive program of environmental management.

Our resources of soil, water, timber, and wildlife are limited. The demands on them are not. More people, more affluence, and more leisure time are bringing new pressures on our natural resource base out of proportion to anything in the past.

An expanding national economy requires an expanding resource base. Pure air, clean water, stable soils, productive land, abundant wildlife, natural beauty, and recreational opportunities are the essentials. They are interrelated and mutually supporting objectives.

Land use planning, control of soil erosion, flood prevention, water supply, water quality control, sediment pollution control, improved timber stands, and recreational opportunities—all are essential in a quality environment program.

A major problem is the quality of water for all uses. Although sewage and industrial wastes are heavy contributors to pollution, sediments from eroding land are the main burden of pollutants in surface water. Suspended solids from farm, roads, streambanks, surface-mined areas, urban development, and similar sources amount to 700 times the loading caused by sewage discharge.

Every year as much as 4 billion tons of sediment reaches our waterways, with a billion cubic yards settling into reservoirs and robbing us of water storage equal to that needed to serve 5 million people.

About 30 percent of this comes from natural or geologic erosion—the constant shaping and reshaping of the earth's surface by water and other natural forces.

But the remaining 70 percent comes primarily from man's present or past misuse, abuse or neglect of the land—from—

- 120 million acres of cropland.
- 32 million acres of pasture.
- 12 million acres of non-Federal forest and woodland.

- 3.3 million acres of National Forest land.
- 2.0 million acres of strip-mine spoil.
- 3.0 million acres of other non-Federal rural lands, including roadsides.

Most of this land—certainly the acres in crops and pastures—needs both initial and recurring conservation treatment to keep the soil in place in fields and pastures and out of the water supplies of the Nation.

The cost of sedimentation from *man-caused* sources is estimated annually to be in the excess of $500 million. This cost includes cost of purifying water for domestic and commercial uses, the loss of water storage capacity, damage to flood plain lands, and the dredging of silt from rivers, harbors, and reservoirs.

THE PROGRESS

Over the past 8 years, USDA has built on and broadened existing resource conservation programs and initiated new ones. Our goal has been to upgrade the quality of our environment by restoring, conserving, improving, and developing our land, water, timber, and wildlife and to use these resources fully for the benefit of all Americans.

The multiple-use concept, initiated by Gifford Pinchot and deployed on National Forest lands for decades, has been extended throughout the Department's resource conservation efforts. Currently we are developing a "total systems" approach to resource program planning and evaluation that we hope will become a part of an overall national program on environmental management.

USDA has an important role in such a program, for any improvement to our environment must begin with our soil, water, and plants.

Soil Surveys

A soil survey, which is a physical inventory of the soils of an area and their capacity for use and their needs for treatment, is the basis of all USDA resource conservation and development programs. A soil survey provides the scientific foundation for virtually every land use and conservation activity.

Soil surveyed acreage more than doubled during the past 8 years. In 1960, soil surveys had been completed on about 332 million acres. By 1968, they had been completed on 685 million acres. This was about a third of the non-Federal land in the Nation.

During the same period, published soil surveys, usually on a county basis, rose steadily from 27 a year to 50 a year in 1968. The surveys serve a growing variety of land users by detailing soil capabilities and limitations for farming, ranching, forestry, recreation, highway planning and construction, pipelines, airports, and community planning for residential, industrial, and commercial development.

Conservation Planning

Most of our renewable natural resources are on privately owned land, which comprises about three-fourths of the Nation's area.

Private land produces virtually all our food and most of our fiber. It is custodian of most of our water and our wildlife. It provides much of our outdoor recreation facilities. How this land is used and managed also materially affects the beauty of our rural landscape.

Major land use problems include water and wind erosion and gully development, streambank erosion, strip mining, denuding of rural and urban sites where construction is underway, inadequate water supplies and waste disposal systems, poor pastures and ranges, unproductive woodlands, lack of cover for wildlife, inadequate surface water for recreational and other uses.

Unsolved, these problems cause the pollution of streams by sedimentation and flooding of farm lands, villages and cities. They destroy the resource base, lower farm income, and breed an unfavorable climate for economic expansion. On the other hand, the conservation and improvement of the land resources increase economic development for the overall betterment of the community.

Resource conservation on this vast acreage of privately owned land is—to a great degree—a voluntary proposition. During the past 8 years, USDA has strengthend and enlarged its programs of technical assistance and cost-sharing to help landowners and operators in the effective management of each piece of rural land.

The response has been great. Locally governed soil and water conservation districts receiving technical help from USDA rose from 2,900 to 3,012 with a growth in the number of district cooperators from 1.8 million to well over 2 million.

But more important, the local people who govern these districts have moved strongly from what was largely a single purpose operation—erosion control—to interrelated multipurpose programs aimed at improving man's total environment.

Since 1962, more than 2,700 soil and water conservation districts have signed modernized working agreements with the Secretary of Agriculture. Modernization of district programs stemmed from our initial work with the National Association of Soil and Water Conservation Districts.

Cost-Sharing

Since 1961, nearly a million new participants—notably low-income farmers—have received cost-sharing help in carrying out conservation work on their land through the Agricultural Conservation Program. And more than 5,000 wildlife conservation and beautification projects were cost-shared in 1966, the first year the practice was offered.

Great Plains Program

Farmers and ranchers in the high risk farming and grazing areas of the Great Plains have, in increasing numbers, found the Department's special conservation program most valuable in resource development. By 1961, a total of 7,150 ranchers and farmers had received help on conservation plans covering 18.5 million acres of land. By the end of fiscal year 1968, USDA had assisted 32,000 farmers on 56 million acres. The program had expanded from 383 counties in 1961 to 423 counties in 1968.

Community Planning

During that same time, technical assistance in community planning and development by USDA's Soil Conservation Service, virtually nonexistent in 1961, was stepped up dramatically. In 1968 alone, SCS prepared basic natural resource data for use in developing more than

2,300 community plans covering about 137.5 million acres for land use planning on airport installations, subdivisions, industrial locations, county and multicounty zoning purposes, recreation areas, and the like.

Watershed Projects

In 1960, the aim of USDA's small watershed program was primarily flood prevention. Since then it has been broadened to include the multiple-use concept. These projects have demonstrated their worth in controlling erosion, preventing floods, improving water quality, attracting new industry through increased water supply, creating new water-based recreation opportunities, and improving the beauty of the countryside.

Applications for watershed assistance practically doubled between 1960 and 1968. During that same period, projects approved for installation almost tripled—growing from 289 covering 17 million acres of land to 834 covering 48.5 million acres.

Projects with completed reservoirs providing municipal and industrial water supply increased from three in 1960, to 55 serving 63 cities in 1968. An additional 93 water supply reservoirs, serving as many towns, have been approved for operations.

These are refreshing gains. Nevertheless the greatest gains over the past 8 years have been in the community and multicounty approach to resource development.

In fiscal 1968 alone, small watershed projects under construction or completed prevented $27.5 million in flood and sediment damages, added $17.1 million to local payrolls, created 5,700 new jobs, provided water for 345,000 people, and opened up recreation opportunities for 3.7 million visitors.

Key indicators of program progress for fiscal years 1960 through 1968 and expected 1969

Items	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
CUMULATIVE DATA FOR—										
Watershed protection and management: Completed projects_____number__	44	61	88	100	114	127	165	211	257	304
Completed reservoirs with municipal and industrial water supply_____do____	3	5	8	10	16	23	29	38	*55	64
Completed reservoirs with recreation development_____do____	0	2	3	10	19	25	38	51	62	78
ANNUAL ACCOMPLISHMENTS										
Conservation technical assistance: Landowners and operators assisted_____thousands__	997	1, 038	1, 017	964	1, 039	1, 060	1, 086	1, 078	1, 047	1, 118
Soil surveys: Publication of areas mapped million acres__	12. 1	15. 3	13. 0	15. 6	15. 9	17. 3	20. 7	18. 1	21. 3	27. 7
Agricultural conservation program: Acres served_____do____	46. 6	47. 7	48. 9	50. 0	51. 0	52. 0	52. 1	52. 7	55. 9	48. 5
Recreation on national forests: Visitor-day use_____millions__	47. 6	55. 1	61. 2	68. 7	79. 1	86. 9	109. 6	138. 2	150. 0	160. 2
National forest timber production: Volume cut_____billion board feet__	9. 4	8. 4	9. 0	10. 0	11. 0	11. 2	12. 1	10. 9	12. 1	12. 6
Timber receipts_____million dollars__	140. 1	98. 4	106. 2	117. 4	128. 0	138. 8	164. 9	172. 8	205. 6	216. 2
Forestry assistance, non-Federal lands: Direct assistance to private landowners in Cooperative Forest Management_____thousands__	82. 2	89. 3	91. 4	101. 8	97. 1	99. 1	105. 0	107. 2	109. 4	109. 4

*Includes 14 reservoirs built since 1960 in pilot and flood prevention projects.

NEW UNDERTAKINGS

Resource Conservation and Development Projects

Experience in local conservation districts, most of them on a county basis, and small watershed projects, which can cover more than a county but are nonetheless limited to a flood prevention base, led to broader application of the multiple-use concept on private land covering multicounty areas.

Following passage of the Food and Agriculture Act of 1962, USDA launched a new multicounty approach to environmental improvement called Resource Conservation and Development Projects. These projects now number 51 and cover 168 million acres in 39 States.

The projects are designed to help solve low income and under employment problems by making better use of the area's natural resources and attracting new industry. The projects create a base not only for new jobs and higher incomes, but also for outdoor recreation and beautification.

Of the 51 projects, 40 are in the operational stage. The first 28 of these will result in about 73,000 man-years of employment during construction and are expected to provide continued employment of more than 50,000 man-years annually when all project measures are completed.

The 755 measures that have been completed provide 11,000 man-years of continuing employment and have increased annual gross income in the project areas by more than $120 million.

Like the small watershed program, RC&D projects are initiated and sponsored by local groups—governmental units and special purpose districts—that have responsibilities in resource conservation and development.

Private Land Recreation

Since passage of the Food and Agriculture Act of 1962, Soil Conservation Service technicians have helped more than 44,000 private rural land owners and operators establish income producing recreation enterprises on their land. For nearly 8,000 of these, recreation has become the primary source of income. Not only has recreation become a new "crop" for these farmers and ranchers, it has had a multiplier effect on the economy and well-being of hundreds of rural communities.

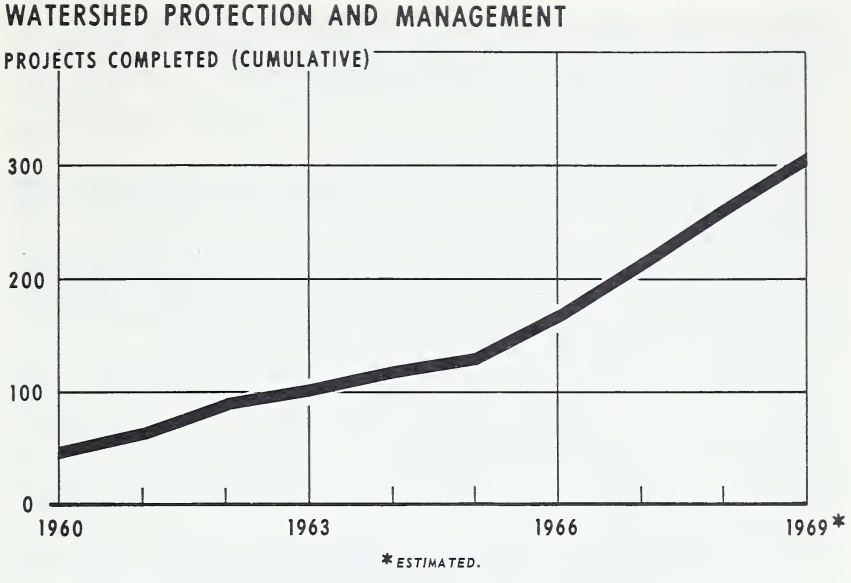
More than 121 small watershed projects in 33 States have plans for 142 public community type recreation developments. When completed, these developments will provide annually an estimated 8½ million visitor days of water based recreation such as fishing, boating, and swimming.

Since 1962, USDA through the Farmers Home Administration has loaned $84½ million to 636 rural nonprofit organizations to establish outdoor recreation facilities.

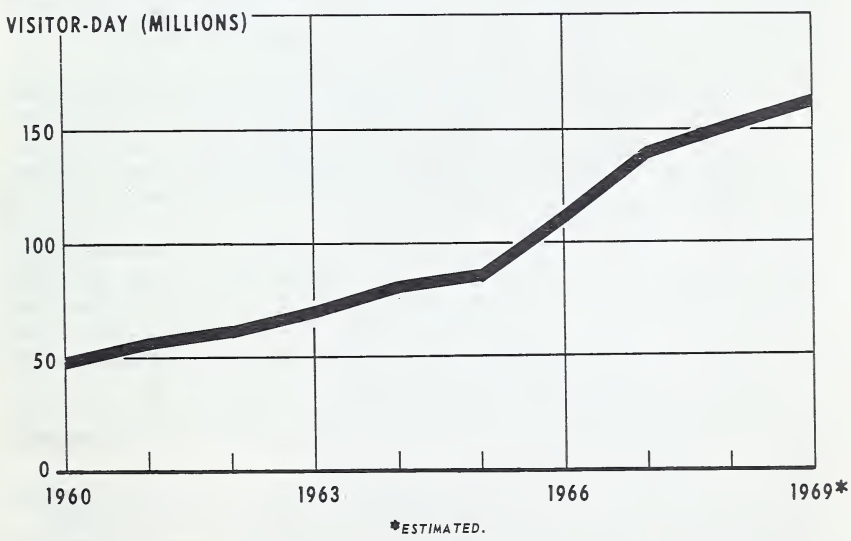
Recent legislation authorized recreational loans to individuals who wish to shift their operations entirely to recreation. Plans now call for 750 loans during 1969 for a total of $15 million.

Suburbia Conference

New ground was broken in June 1967 when the Departments of Agriculture and Housing and Urban Development sponsored a Soil,



Watershed Protection and Management.



Recreation in National Forests.

Water and Suburbia Conference in Washington, D.C. Attendants, by invitation, included county and State officials, planners, builders, developers, and representatives of professional and trade associations related to urban development.

The problem they tackled—the problem that occurs when the bulldozer replaces the plow—is tremendous.

To meet the needs of our growing population, we are at present converting land from rural to urban use at the rate of almost 2 million acres a year.

And we know that soil erosion can increase from as little as 50 tons a year on farmland to more than 2,300 tons a year on land being converted to suburban uses—for subdivisions, apartments, commercial, and industrial buildings, highways, and public utilities.

Speakers and discussants examined soil and water problems and opportunities that occur as land shifts from rural to suburban and urban uses. They exchanged information on sources and types of soil and water management assistance available to public officials, planners, developers, and builders. They explored the economics of land use changes and discussed opportunities for community action in local and regional planning.

The national conference was followed by similar regional conferences at Austin, Atlanta, and Baton Rouge. Others are planned.

A second national conference, dealing mainly with sedimentation, is scheduled for September 1969 in the Nation's Capital.

National Forest Story

In addition to its work on the National Forests, the Forest Service, through cooperative state program, assisted 109,400 private woodland owners in forest management in 1968 as compared with 82,200 in 1960. In 1965, it started a new program in forest products utilization and helped 11,000 individual woodland owners, loggers, and processors in 1968.

The Forest Service has steadily increased and improved organized fire protection of non-Federal forests. Since 1960 about 10 million acres per year have been brought under the program. Some 480 million acres of the 517 million acres needing organized protection are now under the program. This represents 93 percent of the total, compared with 77 percent in 1960.

Eighteen percent of the Nation's commercial forest land—from which 25 percent of the total national timber harvest is cut yearly—is land in the National Forest System. The volume of timber cut ranged from 8.4 million board feet in 1961 to 12.1 million board feet in 1968. Receipts from timber sales during this period ranged from $98 million in 1961 to $205 million in 1968.

Measures to improve timber stands by thinning, cutting, and reforestation were stepped up considerably during the past 7 years with 1.6 million acres planted or seeded successfully.

Nearly 45,000 miles of National Forest roads were built or rebuilt during the past 8 years, and funds for this purpose almost tripled.

In the past 8 years, *recreation* use of the 187 million acres of National Forests has just about tripled—growing from about 48 million visitor days in 1960 to 150 million visitor days in 1968. To keep up with the increased demand the Forest Service has greatly broadened and intensified its recreation programs to develop the kind, quality, and

quantity of recreational resources to meet the growing needs of American people. This includes the whole range of outdoor recreation development from the enhancement of natural beauty and preservation of wilderness areas to the protection and improvement of wildlife habitat.

At present the Forest Service manages 12,483 recreation sites. In addition to the traditional activity sites for camping, picnicking, boating, swimming, and winter sports, the Forest Service, since 1961, began administering National Recreation Areas in West Virginia, California, Virginia, and Utah. Seventy-six of the 122 scenic, historical, archeological, geological, botanical, memorial and virgin areas were established in the last 8 years.

Existing campgrounds and picnic areas in the National Forests can now accommodate more than 600,000 persons at one time. The capacity of 198 winter sports areas is about 336,000 persons.

The recent surge toward outdoor recreation and a growing national concern for the quality of our natural environment have brought intensified public interest in conservation and ecology. To meet this need, the Forest Service in 1961 started a visitor information service and set up visitor centers where vacationers and tourists could get meaningful on-the-ground experiences that went beyond the usual recreation activities.

There are presently 24 visitor centers in operation and three more underway.

The *National Wilderness Preservation System*, established in 1964, now includes 58 Wilderness Areas in National Forests covering 9.7 million acres of land. Between 1961 and the passage of the Wilderness Preservation Act in 1964, over 2 million acres of National Forest land were added to the Wilderness System by Executive Order of the Secretary of Agriculture.

In addition, the *National Trails Act* and the *National Wild and Scenic Rivers Act* were passed in 1968 substantially extending USDA's responsibility in the recreation field.

Through the *Land and Water Conservation Fund*, established by Congress in 1965, the Forest Service has acquired 181,656 acres of land for intensive development for hunting, fishing, hiking, swimming, boating, wilderness, and other recreational pursuits. Most notable acquisition was the 18,000-acre Sylvania Recreation Area in Michigan.

In 1968 a new pilot project was initiated on the George Washington National Forest in Virginia. Called the Outdoor Patterns for People program, it seeks to provide through special programs and facilities an activity-oriented forest experience designed to meet the needs of all segments of society—with special emphasis on youth, the disadvantaged, and the handicapped. The objective is to make public lands more accessible and better understood by people who might otherwise be bypassed.

THE FUTURE

We have in our hands the power to reshape our environment and make it more useful and safe for all Americans.

The question is, will we?

We have made substantial progress in the past decade. But much remains to be done.

Some Major Needs

Local support.—We need to intensify our efforts to build upon our historic working relationships and encourage and support State and local governments, conservation and other districts, educational institutions, private organizations, business and industry, and farmers, ranchers, and rural land owners in the multiple use of natural and human resources.

Rural development.—We need to boldly move forward in revitalizing rural communities through the small watershed program and resource conservation and development projects and strive for balanced use of human talents and natural and economic resources to achieve more jobs and more income for more people.

Recreation.—We need to continue to expand recreational opportunities and beautification on both private and public lands.

Demand for outdoor recreation has been rapidly expanding. Actual participation increased 20 percent from 1960 to 1965 according to "Outdoor Recreation Trends," a survey report by the Bureau of Outdoor Recreation of the Department of the Interior.

Visitor-day use for outdoor recreation in National Forests grew from 47.6 million in 1960 to 150 million in 1968—a threefold increase.

The capacity of developed recreation sites in National Forests was only doubled between 1960 and 1968.

Projections of demand for outdoor recreation by the Bureau of Outdoor Recreation indicate a growth rate of 4.4 percent per year.

Recreation use in National Forests is expected to grow about 7 percent per year—continuing to provide a larger share of total recreation needs each year.

Unless the development of additional capacity in National Forests also expands proportionately increased use of the forests will be limited.

Technical assistance.—We need to increase technical assistance in resource planning and development to conservation districts, communities, multicounty areas, public planning bodies, developers, and other urban-oriented interests.

Soil surveys.—We need to accelerate soil surveys and publication of interpretive material, especially in rapidly growing areas.

In order to complete before the year 2000 soil surveys on the remaining 1,504 million acres and make them available for use through publication, the required rate of progress would be as shown in the following table:

Projected program for completing soil surveys for the United States

	1969–73	1974–78	1979–83	1984–89	1989–93	1994–97	1969–97
Published surveys:							
Number	715	440	530	595	550	540	3,370
Million acres	343.2	264.0	337.8	370.2	330.0	324.0	1,969.2
Surveys completed in million acres:							
Detailed surveys	303.1	212.3	179.5	144.0	94.6	12.0	945.5
Reconnaissance surveys	14.6	111.7	135.5	155.0	124.4	18.0	559.2
Total	317.7	324.0	315.0	299.0	219.0	30.0	1,504.7

Regional programs.—We need to expand and strengthen Resource Conservation and Development projects and other regional resource efforts for more effective town and country development, including recreation and wildlife cost sharing in RC&D projects.

Sediment control.—We need an expanded program for water quality control and agricultural pollution control such as sediment eroding from roadsides, streambanks, and abandoned surface mines.

Great Plains program.—We need to extend for an additional 10 years the Great Plains Conservation Program, P. L. 1021.

Watershed protection and flood management.—We need to eliminate major flood threats in upstream watersheds and develop watershed soil and water resources to provide better living for all the people.

The USDA Conservation Needs Inventory shows that 8,300 projects totaling 1 billion acres have soil and water problems that could be solved with project-type development.

We estimate that about 20 percent of the 8,300 would not meet current project approval criteria, leaving 6,640 feasible projects involving about 500 million acres.

Applications have been received for 2,716 of these, 1,411 have been authorized for planning and 945 plans are completed.

Applications have been received at the rate of about 200 per year, with planning starts about 100 per year.

The current program level will provide for about 50 project completions per year. At this rate, it would require about 115 years to complete the remaining 5,750 projects covering about 450 million acres.

If the job is to be done by the year 2000, the rate of completions must be stepped up to an average of 200 projects a year.

Why are some lakes "dying"?—The best answer now is that they are "overfed"—too rich in dissolved nutrients. Rivers, estuaries, ponds, lakes, and reservoirs rich in dissolved plant nutrients are subject to tremendous growth of algae and other water plants. The plants die. In decaying, they rob the water of dissolved oxygen. Then fish and other aquatic life die. The excessive growth of plant life in lakes is called eutrophication—and the process is an important stage in the death of a lake. What are the sources of the excessive amounts of nutrients in lakes and streams that feed them? How much comes from city sewage? How much from farmlands and farming operations? How can a sick or dying lake be saved? Research must supply more of the answers than we now have.

Animal wastes.—Domestic animals in the United States produce close to two billion tons of waste every year. When this is concentrated, as it is in large feedlots, a major waste disposal problem occurs. For example, a feedlot carrying 10,000 cattle has about the same sewage disposal problem as a city of 164,000 people. The city will be using about 8.2 million gallons of water a day to carry off the sewage. But such amounts of water are never used and are seldom even available at the feedlot. In years past, much of the manure from livestock production was spread on farm fields. But economic research reveals it is cheaper for the farmer to apply commercial fertilizer to his fields than to meet the cost of hauling manure to the field. Basic and applied research work must be expanded, as is pointed out in the Science section of this report, to help farmers and ranchers to solve not only the

problem of animal wastes but also others dealing with protection of the environment—safer use of pesticides, chemical nutrients, plant wastes, trash in forests and forestry operations, and wastes resulting from processing of agricultural commodities.

Urban forestry.—We need an urban forestry program that would provide technical assistance, loans, and cost-sharing to communities in the establishment and protection of trees as they contribute to the quality of the environment.

Rural fire protection.—We need a rural fire protection program which would provide, through cooperation between Federal, State, and local governments, assistance in organizing firefighting forces, education and training, technical help, and cooperative financing to secure adequate equipment.

Timber demands.—Domestic softwood timber demands for 1974 are projected to be 50.3 to 53.6 billion board feet. This is 12.3 to 15.6 billion feet—32 to 41 percent—more than the 1965–67 level of domestic production. The bulk of the increase is to meet lumber and plywood requirements for the projected housing demands.

Hardwood sawtimber demands for 1974 are projected to rise 2.2 to 2.8 billion board feet—22 to 28 percent—above the 1965–67 level of production. Roundwood pulpwood requirements are estimated to increase to 67.0 million cords in 1974—26.4 million cords more than the 1966–67 use.

Without major increases in sawtimber and pulpwood harvests from both public and private lands, substantial price increases are in store for timber and timber products.

National Forests now supply close to 35 percent of the domestic softwood sawtimber—about 12 billion board feet annually. Under current programs and policies the National Forest timber harvest is expected to increase about 2 billion feet by 1974. This is almost entirely softwood sawtimber and would make up only about 15 percent of the projected increase in softwood sawtimber demands.

Further increases in softwood sawtimber harvest from National Forests depend on the amount of price increases that may occur and on reconsideration and revision of established policies. These matters raise question that must be answered in the future.

Road and trail development.—The growing demands for wilderness access and recreation on National Forests and the increased housing demand for timber products raise the needs for both road and trail development on National Forests.

Non-Federal timber land.—We need an expansion of:

- Timber stand improvement work on non-Federal forest and woodland. At the present time, we have a backlog of 150 million acres needing timber stand improvement services. We are providing this help on only 250,000 acres annually, mainly through ACP.
- Help for management harvest cuts. Four million timber tracts are in the hands of small holders who produce about one-half of the U.S. timber supply. At the present time, we are helping them with only 110,000 tracts annually.

Needed—A National Policy

Most important, there is an immediate need for a national policy to use a systematic, comprehensive, overall approach to environmental management and enhancement on a nationwide basis covering all uses of all resources.

Such an overall policy would serve as a basic guide for the contributions each department and each agency—State and local as well as Federal—is best prepared to make.

Each department and each segment of it can make its own unique contribution to the total job to be done. Historic experience, the interactions and interrelationships of programs conducted by each agency, and the needs of the times all combine to create this unique capability to meet a growing need.

Thus the work of each department would be a harmonious part of the whole effort.

USDA already has charted such a course for all its agencies and all its programs and is well on the way to a total systems approach of environmental management.

We have done this without divorcing USDA efforts from the many individual programs of which they are an integral part.

Rather, we have wedded resource conservation with development of economic and human resources in rural areas. We have wedded watershed protection and management with direct benefits to agriculture, to domestic and industrial users of water, to outdoor recreation development, and to environmental improvement. We have operated resource conservation and commodity programs in such a coordinated manner that farm income is increased while resources are being enhanced.

We have applied the principles of multiple use, learned over the years in the National Forests, to expand our help to conservation districts, cooperatives, grazing associations, watershed project sponsors, and other groups of local people and private landowners.

We have combined multipurposes and multiple uses in resource conservation and development projects in rural renewal projects, and in our regional planning work.

Thus, we no longer attempt to deal with one resource singly or separately at a time nor with one and only one use of that resource.

Consistent and integrated land and water resource management systems are expanding the opportunities for people to live a full life in the towns and countrysides of the Nation. These are inherent parts of the solution of the production and income problems of farmers and rural America. They also are inherent parts of solving the problem of ghettoes in urban America.

We are convinced these aims can be attained by a program of conservation within which the programs of each agency make their special contribution to development, use, preservation, and restoration of renewable natural resources within an overall national policy of environmental management.

We have made significant progress.

But we do need additional tools, methods, research, and expansion or extension of some programs.

In summary, these include:

- *Water quality control assistance in watershed projects,* to provide for cost-sharing in storage for water quality control work done in a watershed project.
- *Agricultural Conservation Program cost-sharing for pollution control,* to permit ACP cost-sharing for practices primarily for pollution control on the the same basis as cost-sharing is done for practices primarily for wildlife conservation.
- *Use of available Federal funds for acquiring lands, easements, and rights-of-way in watershed projects,* to permit the use of Federal funds which would

not otherwise be available for acquiring lands, easements, and rights-of-way in watershed projects.

- *Further help with development of municipal and industrial water supply*, by providing financial assistance up to one-half the cost of the storage of water for present or anticipated future demands or needs for municipal or industrial water.
- *Potomac River Basin development*, to enable the Secretary in cooperation with concerned local agencies to prepare and carry out work plans on an area basis for the reduction of erosion and sediment from critical source areas, with appropriate cost-sharing by local agencies and assurances that reasonable controls will be put on future developments to prevent erosion and sediment problems.
- *Abatement and control and prevention of agricultural and related pollution*, to enable the Secretary to cooperate with State and local public agencies in carrying out a program for the abatement and control and prevention of agricultural and related pollutants and to undertake nationwide research in support of this work.
- *Surface-mined land reclamation*, to provide for Federal assistance in a project-type program for reclaiming privately owned lands affected by surface mining for which there is no statutory requirement for their reclamation.
- *Rural fire protection program*, to enable the Secretary to cooperate with the States in establishing a rural fire protection program and providing for the prevention of wild fires and building fires in rural areas.
- *Roadside erosion control*, to provide Federal help to State and local governments for roadside erosion control.
- *Streambank erosion control*, to provide Federal aid in project-type programs for streambank erosion control.
- *Further development of recreation and fish and wildlife in resource conservation and development projects*, by enabling the Secretary to furnish technical and financial assistance for water based public recreation and fish and wildlife development in authorized Resource Conservation and Development projects.
- *Cost-sharing and incentive payments under the Agricultural Conservation Program for recreation purposes*, to enable ASCS county committees to enter into agreements to provide cost-sharing help for installing conservation practices needed for establishment and operation of an outdoor recreation project on farm, ranch or other land, which will be made available to the public for recreation use.
- *Expand National Forest wilderness*, by designating 10 or more areas within the National Forests as new wildernesses for addition to the National Wilderness Preservation System.
- *Urban and community forestry program*, to enable the Secretary to cooperate with the States and local units of government by providing technical and financial help to plan, protect, establish, improve, and manage trees and related plants in urban and community parks, open spaces, streets, greenbelts, and private grounds. This would include intensive research in tree management under urban conditions.
- *Establish the Sawtooth National Recreation Area*, with approximately 351,000 acres of Sawtooth Challis and Boise National Forest and adjacent lands in Idaho as Sawtooth National Recreation Area.
- *Establish the Massanutten National Recreation Area*, in Virginia.
- *Continue the Great Plains Conservation Program*, by extending the expiration date to December 31, 1981 to permit continuation of long-term cost sharing contracts to speed and complete conservation treatment needed on farms and ranches in the region.
- *Provide additional long-term contracting for conservation cost sharing*, by enabling the Secretary to enter into agreements up to periods of 10 years with landowners and operators to share the costs of carrying out

conservation plans on farms and ranches. This would supplement annual cost sharing under the ACP, financial help in watershed projects, and the long term cost sharing under the Great Plains Conservation Program.

Our environment can sustain our growth and nourish our future. How well it does so will be determined in part by how conscientiously we heed the warning sounded by Theodore Roosevelt more than half a century ago.

> "To skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed."

Fortunately, public concern with resources conservation is increasing. I believe this generation is ready to accept its responsibility for the wise use of America's resources.

ACHIEVEMENTS—1968

TECHNICAL HELP ON PRIVATE LAND

We continued in fiscal 1968 to assist individual landowners and operators cooperating with soil and water conservation districts throughout the country. We also sharply increased help to groups, organizations, and planning bodies ranging in size from two or three adjoining landowners to multicounty broad resource planning areas.

Conservation districts now encompass about 96 percent of the "land in farms" and 99 percent of the farms and ranches in the United States. Nineteen new districts were formed in 1968.

The owners and operators of 114,334 farms, ranches, and other rural properties, adding up to more than 52 million acres, developed new conservation plans or revised existing plans with Soil Conservation Service assistance. SCS helped more than 740,000 landowners and operators apply conservation to their land.

Almost 6,000 conservation plans covering about 940,000 acres used primarily for nonagricultural purposes, such as reservoir areas, recreational tracts, and industrial sites, were developed or revised.

Great Plains Conservation Program

The Great Plains Conservation Program helps to stabilize soil resources and the local economy of the Plains States.

During fiscal 1968, 3,227 new long term cost-sharing contracts were signed placing an additional 5,176,284 acres under comprehensive planned conservation treatment. As of June 30, 1968, 31,122 farm and ranch operators were in the program, providing conservation for 56,601,700 acres.

A small family farmer in South Dakota signed the 30,000th Great Plains Conservation Program contract. His contract provides for an average of $670 cost-sharing annually for 5 years. This will help him make sure that his land will be adequately protected against drought and other bad weather.

The program began operating in eight new counties during fiscal 1968.

Quality of the Environment

All our conservation programs give priority to reducing sediment in streams, encouraging proper land use to curtail duststorms, and controlling the effects of agricultural wastes as pollutants of air, water, and soil.

During 1968, our conservationists and technical specialists explored alternatives for the disposal of feedlot and poultry wastes, food and crop processing wastes, and domestic sewage, garbage, and refuse. Our soil, engineering, and plant science experts are helping determine the use and limitations of lagoons, landfills, septic tanks, infiltration ditches, and spray systems for treatment of these wastes.

One of the most damaging pollutants is sediment from eroding lands, both agricultural and urban, discharged into streams and rivers. In cooperation with the U.S. Department of Transportation we have prepared guidelines for minimizing soil erosion from highway construction.

Soil Surveys

We completed detailed soil surveys on 45.7 million acres and reconnaissance surveys on 4.3 million acres during the year. We published 50 surveys covering more than 18 million acres.

These surveys supplied basic information for developing technically sound conservation plans on about 83,000 farms and ranches, mostly small units. A soil map, with legend, soil descriptions, and interpretations, was included as part of each plan.

A new and more precise system of soil classification neared completion for publication in fiscal 1968. It will make our surveys more precise and useful. It will also make it easier to apply to the U.S. the results of soil research from all over the world and help us give more specific information to countries receiving U.S. technical assistance.

Technical Advances

Rapid change in farming methods is bringing about equally great changes in conservation concepts and methods. The high-horsepower tractor with 6-, 8-, or 12-row equipment, the combine with 6- or 8-row corn header, and the multirow mechanical cotton picker are now commonplace.

We gave added emphasis in 1968 to installing parallel terrace systems for erosion control on cropland. With parallel terraces, it is easier to farm with big equipment.

Land grading, long accepted as necessary for surface-irrigated land, is being increasingly used on dry land. Shaping the land surface to reduce high and low spots permits installation of more workable conservation systems and provides smoother surfaces for planting, cultivating, and harvesting.

We developed and adopted a standardized system to simplify the presentation of detailed soil information for use in woodland conservation. This gives foresters and woodland owners a valuable simplified tool to use with soil maps in woodland management. It is comparable to the capability classification that has served so well for broad area land-use planning and for tilled crop production.

We are developing a system of automatic data processing for storage and retrieval of soil-woodland site data from the more than 20,000 plots that have been studied by the Soil Conservation Service and cooperating State and Federal agencies. This will make available information more readily usable.

Conservation Needs Inventory

We are in the final phase of updating the nationwide Conservation Needs Inventory. Acreage estimates of major land uses—cropland, pasture and range, forest, and other land—have been reviewed and accepted for 49 States by the Department Conservation Needs Inventory Committee. Estimated conservation treatment needs have been received from 34 States. Four have been accepted and 30 are being reviewed.

An example of parallel level terraces.

Conservation at its best.

All States have completed the watershed projects inventory. Machine summaries have been made for 46 States and the Department committee is making its review.

We have contracted for the writing of a popular report on the inventory, entitled "Status of Land and Water Resources in the United States—1967." This publication, containing the historical background of the inventory as well as tables of data for general use and application, will be widely distributed.

Urbanization of Rural Land

We are interested in how rapidly rural land is being swallowed up by urbanization.

Aerial photos were used to determine the rate at which land has been converted to urban uses in the Columbia North Pacific, California Coastal, and Colorado River Basins. The study, covering the period 1950 to 1960, will be used to project land use changes in other river basins. Urbanization has been greatest in the major metropolitan areas along the coast, such as Los Angeles and San Francisco. However, substantial urbanization has occurred also around smaller cities. The average shift of rural land to urban use ranged from 6,000 acres in major metropolitan areas to about 100 acres in small area centers.

Resource Conservation and Development Projects

We are coordinating conservation with economic development through multicounty Resource Conservation and Development projects. Each of these projects is "multipurpose" in the broadest sense of the word; each conserves natural resources in an integrated, well-planned manner; each brings jobs to local communities, conserving the human and economic base of rural America.

Agricultural Conservation Programs

Through the 1967 Agriculture Conservation Program (ACP)—in which the Government shares the actual expenses of applying soil, water, woodland, and wildlife conserving measures—we continued to stress treatment of conservation problems on low-income family type farms. We also emphasized getting a conservation program started on farms where none had been undertaken.

More than a million farmers and ranchers took part in the ACP during the year.

While ACP cost-sharing usually covered 50 percent of the cost of the practice, it ranged from substantially less for some practices up to 80 percent for others. Low-income farmers could also get cost-sharing up to 80 percent. Without such aid, most of these farmers could not undertake needed conservation measures.

Through this cost-share assistance in 1968 we helped farmers apply conservation to some 25 million acres of cropland, 20 million acres of pasture and range, nearly 1 million acres of woodlands, and 3 million acres of wildlife habitat and scenic beauty land.

Due to the rising cost of conservation supplies and services coupled with a smaller allotment of ACP cost-share funds in 1968 (down from the usual $220 million to $195.5 million), the number of participating farmers and ranchers fell slightly below the longtime mark of 1

million or more a year. However, a substantial number of farmers, including many low-income producers, took part in the program for the first time.

ACP Special Projects

Special ACP projects, a relatively new approach to well defined conservation problems that affect communities, areas, or classes of farmers, continued to meet with outstanding success.

In 1968 some 375 new projects were undertaken and nearly 300 old ones were carried forward by close to 30,000 farmers and rural youth. Cost-sharing ranged up to 80 percent.

Since the inauguration of this program 4 years ago, more than 1,300 projects have been launched by 80,000 farm people throughout the country, joining hands in small groups to attack common conservation problems.

Here are some typical projects undertaken in 1968:

We helped 75 low-income farmers of Chilton County, Alabama, convert land unsuited for row crops to permanent protective cover. This will halt erosion and provide grazing for brood sows and feeder pigs. Fences were built and ponds dug to distribute the animals throughout the grazing areas and protect against overgrazing. ACP cost-sharing for this project was set at $7,000.

We helped 18 Idaho farmers in the Pocatello Valley control severe erosion, flooding, and sedimentation resulting from heavy spring runoff and summer storms. Enduring cover in crop rotation, contour stripcropping, terraces, sod waterways, and erosion control dams will correct the problem. ACP cost-sharing will range up to 80 percent.

In Pulaska and Fulton Counties, Indiana, 97 farmers are getting aid in controlling severe flooding and erosion which has previously destroyed crops on more than 300 acres and damaged crops on an additional 2,000 acres. Streambank protection and drainage ditches will prevent the flooding of cropland and 15 miles of highways in the two counties.

A special project in Gilmer County, West Virginia, enabled 50 farmers to hire a plane to fertilize 25 acres of vegetative cover on each of their farms, protecting the land from erosion and improving livestock grazing. The area is too steep for conventional methods of applying fertilizer. ACP cost-sharing at 80 percent will total $4,000.

CONSERVING WATER AND WATERSHEDS

River Basin Planning

We carried out water and related land-resource investigations on 51 river basins during fiscal 1968. Of these, 24 are comprehensive interagency studies being coordinated by the Water Resources Council established under the Water Resources Planning Act of 1965.

A USDA member sits on each of the four river basin commissions created under the Act. The commissions prepare comprehensive joint plans for the development of water and related land resources in their areas.

Other river basin studies, carried out in cooperation with State water resource agencies, identify opportunities for water and related land resource development in upstream areas and developments which should be initiated in the immediate future to benefit rural and urban residents.

Watershed Protection and Resource Development

Local agencies and organizations submitted 123 applications for assistance on watershed protection and flood prevention projects under P.L. 83–566 during fiscal 1968. Authorizations for planning assistance were limited to 100 as in previous years. At yearend, the backlog of unserviced applications currently judged as suitable for planning authorizations stood at 781.

We approved for operations and funded 17 watershed projects during the year. An additional 78 watershed work plans were approved by the appropriate committees of the Congress during the 90th Session and 16 plans are awaiting action by the committees. However, funding of these projects has been withheld.

These projects continue to reflect the multiple-purpose concept for community development. Of the 78 plans approved by Congress, 49 incorporate more than one purpose. Besides watershed protection and flood prevention, 23 projects will provide facilities for public recreation and 11 plans include water supply storage to meet community needs. Better agricultural drainage is planned in 18 watersheds, irrigation improvements in 10, and fish and wildlife enhancement in four projects.

Forty-six watershed projects were completed during fiscal 1968. A total of 257 pilot and P.L. 83–566 projects in 47 States now have all land treatment and structures installed and are being operated and maintained by local organizations.

Two pilot studies, started in 1968, will move the storage and retrieval of watershed data into the computer age. They will make it possible to determine the benefits which will accrue in any area where measures are being installed and to relate them quickly to costs for planning, programming, budgeting, and information purposes.

Four major ADP programs are now fully operating for doing (1) the watershed hydrology, (2) stream hydraulics, (3) the economic analyses, and (4) the positioning and sizing of structures, in all P.L. 83–566 watershed planning. ADP enables the same planning force to investigate several alternatives from which communities can select those most acceptable for their needs. In many cases the result is less costly projects than those previously formulated.

USING AND IMPROVING OUR FORESTS

The National Forest System comprises 187 million acres. The development and use of the many resources in these forests from the planning stage onward is a prime example of Resources in Action.

National Forest Timber

In fiscal 1968, 12.1 billion board feet of timber was harvested on National Forest lands, compared with 10.8 billion board feet in 1967. Receipts from timber sales amounted to $205.6 million, $32.8 million more than in 1967. Thousands of small sales of timber, ranging from $300 to $2,000, are made to local rural people each year. Local economies benefit from these transactions as well as from sales of such special products as Christmas trees, floral greens, naval stores, and other small items.

Cash receipts from the use of all National Forest resources reached an all-time high of $207.4 million. Timber sales accounted for the great bulk; the remainder came from grazing fees, recreation concessioners' permits, and other forest uses.

One-fourth of the money received from the National Forests is paid out to the States. In 1968 this amounted to a record $52 million. This money was distributed to counties in which National Forests are located to be used for public roads and schools. Receipts other than the portion paid to the States go into the Federal Treasury.

Cooperating with State and Private Woodland Owners

Despite the size of the National Forests, more than 70 percent of the commercial forests in the country are privately owned. We cooperate with these owners, working closely with them and also with State agencies in protecting and managing woodlands. Healthy, well-managed, and productive public and private forest resources are essential to the national well-being.

Forty-eight State forestry agencies cooperate with the Federal Government in producing and distributing tree seedlings for planting on State and privately owned land.

To replace timber harvested, over a billion small trees were planted on more than a million acres of public and privately owned lands. This was the eleventh straight year in which plantings exceeded a billion trees.

Water and the Forests

Every acre in the National Forest System is important to water production. Availability of adequate water is necessary to rural America's growth. Forests, farms, and industries require large quantities of water to feed, clothe, house, and provide jobs for people. During 1968, we placed continued emphasis on planning to provide water in places that needed it most.

The Pacific Southwest hydrologic survey is moving ahead on schedule. This covers 40 million acres in 43 National Forests in 7 western States. The 1968 phase of this survey will scientifically determine the effect of land treatment and vegetation-manipulation programs in increasing water yield and improving the timing of yield and water quality in five sample watersheds of the Southwest.

The Forest Service is evaluating surface water yields on 99 watersheds to see how forest uses affect watersheds, to determine what protection is needed on them, and to measure their capability of meeting future water needs. The mass of data coming from these evaluations is being handled by several new computer programs.

Fifty-eight water quality stations are operated to determine what effect land management is having on water. This helps assure maintenance of high-quality fish habitat, water-oriented recreation, and the production of good, clean water for rural communities.

Air monitoring devices have been installed on the Clark National Forest in Missouri to study the air resource near mineral developments. We need this information to help us protect living resources in the National Forest.

Forest Products Utilization

Cooperative efforts by State and Forest Service foresters aid forest landowners and producers of forest products.

A Maryland flooring company requested the Maryland Department of Forests and Parks Utilization Forester to study the average dollar loss that occurred in air-drying certain grades of lumber and the improvements in air-drying practices that would be necessary to reduce losses to acceptable levels. Our Forest Service utilization specialists helped make the study. It led to specific recommendations concerning ways to improve existing air-drying yard practices so that losses would be reduced.

This is one of many instances in which wood processors have benefited from our forest products utilization program now in its fifth year. The program has 77 utilization specialists, 26 employed by the Forest Service and 51 by 38 States.

Recreation for Pleasure and Profit

In 1968, an estimated 150 million visitor days were recorded in the National Forests, an increase of 11 million over fiscal year (FY) 1967. Year after year, visitors come in record-breaking numbers to camp, drive, hunt, fish, picnic, ski, swim, canoe, hike, and take pictures.

As the number of National Forest visitors expands, overuse of some facilities poses a serious problem. We are working to overcome this by constantly planning or building new facilities to take care of present and projected visitor needs.

Existing campgrounds, picnic areas, and other facilities can now accommodate over 600 thousand persons at one time. The capacity of 198 winter sports areas is about 336,000 persons. Throughout the National Forests, a well developed road and trail network lead visitors to scenic, recreation, historic, and other points of interest. Over 7 thousand miles of roads and almost a thousand miles of trails were built or rebuilt during FY 1968.

Wilderness Preservation System

The Forest Service pioneered the concept and policy of wilderness protection with the establishment of the Gila Primitive Area in New Mexico in 1924. Long years of experience in managing such areas provided a strong base for the National Wilderness Preservation System established by the Wilderness Act of 1964. Over 9 million acres of National Forest lands that make up this system are managed by the Forest Service. In 1968 the President submitted to Congress proposals for 8 additional wildernesses containing 630,000 acres. An additional 3.7 million acres still in the 21 Primitive Areas in the National Forests are under study for possible inclusion in the Wilderness System.

Fish and Wildlife

The National Forests offer superb big-game hunting and sport fishing opportunities under State fish and game regulations. Visitor days of use of National Forests for hunting and fishing have more than doubled since 1960 and rose by over 10 million in fiscal year 1968 over the previous year.

To enhance these opportunities, habitat management plans are prepared for each administrative unit and for major wildlife species. These plans identify habitat requirements for each species concerned.

Our current inventory of fishing waters in the National Forests shows that more than 84,000 miles of streams, constituting more than one-fifth of the

Canoeing in a National Forest.

Hikers enjoying the great outdoors.

cold water streams in the United States, excluding Alaska, produce resident game fish. Over 1¼ million acres of natural lakes, or more than one-half of the cold water lakes in the United States, excluding the Great Lakes, provide a combination of cold water fishing and excellent scenery. In addition, nearly a million acres of manmade reservoirs, supporting cold and warm water fish, are part of the National Forest fishery values.

Rivers and streams within the National Forests of the Pacific Coast States are important nurseries for the production of young salmon. This valuable fish resource, although produced in headwater streams, is harvested in the Pacific Ocean by both commercial and sport fishermen. Of special significance during the past year has been the development and testing of a gravel-cleaning machine designed to remove silt and sand from spawning gravels. The machine is capable of removing fine sediment from spawn beds and restoring them to their productive capacity. It is particularly adapted for use in Alaska's coastal streams which have become sedimented from past floods and erosion action.

Visitor Information Services

One of the most successful ways of introducing visitors to the attractions and resources of our forests is through the Visitor Center. There they are oriented to the conservation and enjoyment of natural resources and their experience in the forest is made more meaningful. In 1968, we opened the main exhibit hall of the Madison River Canyon Earthquake Visitor Center, Gallatin National Forest, Montana, to explain the nature and history of earthquakes. At the Cradle of Forestry, Pisgah National Forest, North Carolina, the campus of America's first school of forestry has been entirely restored or reconstructed to tell the historic story of America's first managed forest.

We also opened a unique interpretive facility, a stream profile chamber, in the Eldorado National Forest, California. Here visitors actually view a cross section of a trout stream and learn the story of stream ecology.

A new visitor activity program, Outdoor Patterns for People, was inaugurated in 1968 to provide opportunity for a variety of enjoyable outdoor experiences to groups of people who might not otherwise encounter them—while continuing to offer ample services and facilities for family and individual use. A pilot program was initiated on the George Washington National Forest with temporary headquarters at the New Market Gap Information Station.

The Forest Service has turned major attention to what it calls "environmental architecture," now employing more than 120 landscape architects, the biggest landscape architectural force in the world. Their work seeks to blend the activities required to obtain the multiple benefits of a working forest with a desire to maintain and enhance the overall natural beauty of the forest environment.

NATURAL BEAUTY

Projects specifically aimed at reducing the sacrifice of natural beauty continued to be an important element in our Resources in Action program.

During the past few years, our scientists have intensified efforts to develop new trees and other ornamental plants and to make them available to the nursery trade and the public. Much of this research is conducted at the National Arboretum.

Plant explorers search remote parts of the world looking for exotic plants that show promise as ornamentals or as crops in this country. For example, in 1966 ARS made available for the first time the new Bradford pear tree. This tree had its beginnings in a plant exploration trip to China.

Home Beautification

Several publications released during fiscal 1968 gave home gardeners tips on beautifying the home. A series of "How To. . . " booklets presented instructions for growing hollies, peonies, flowering crabapples, dahlias, and magnolias. Other instructive booklets gave pointers on how to select shrubs for growth in shaded areas; how to protect flowers from insects; and how to develop indoor gardens for the bleak winter months.

Community Beautification

Natural beauty is a popular group activity of Extension homemaker clubs and in 4–H work. In some cases projects are carried solely by 4–H'ers, while others are organized in cooperation with other youth organizations.

> A garden club in East End Newport News, Virginia, organized an Extension Coordinating Committee to help make known and available the total facilities the Extension Service can provide for community improvement.
>
> The club called on all other organized groups to pool their support to carry out a community-wide improvement drive. Twenty-two organizations assisted with the effort.
>
> Old fences were taken down throughout 14 city blocks. Outbuildings which were abandoned or not up to standard were removed. The general weekly trash and debris collection more than doubled. Residents added trash containers, provided houses and pens for dogs and took part in a rodent control program in the spring and the fall.
>
> The committee got response through block leaders, personal contact, weekly club and committee meetings, telephone calls, handouts, and radio and television spot announcements. Announcements were made at churches and other organizations, and at 10 schools during assemblies and school club meetings. A total of 800 contacts were made with churches and social, civic, and business organizations.

Similar projects to enhance natural beauty are carried out in communities all over the land.

One of this generation's noblest goals is to restore beauty to the countryside, beauty to the American community, beauty to human existence.

Conservation in America is a moral imperative. It is a work which never ends. It must be taken up anew by each succeeding generation, acting as trustees for the next.

SCIENCE SERVING MAN

"It is a fabulous country, the only fabulous country;
It is the only place where miracles not only happen,
but where they happen all the time."

THOMAS WOLFE

When Thomas Wolfe wrote those words he could well have had research in mind. For research is the bedrock of much of America's progress. The contribution its "miracles" have made to our agriculture defies measurement.

Research is the mainspring of our farmers' efficiency in production. It continually seeks out better ways to use, conserve, and improve soil, timber, and water resources. It develops new agricultural products which sometimes result in entire new industries. It shows us how to control pests through new, safe methods. It develops new food mixtures with high nutritional value for use at home and abroad.

PROBLEMS DURING THE SIXTIES

In carrying out these diverse functions, our agricultural researchers faced dozens of problems during the sixties.

One major problem just coming into focus in 1961 concerned pesticides. People wondered about the safety of chemical pesticides, particularly when used on food crops. Were chemical pesticides contaminating the air and soils, killing wildlife, poisoning waterways, damaging the health of human beings, upsetting the balance of nature? Rachel Carson's book, "Silent Spring," published in 1962, heightened the controversy.

Natural and manmade hazards also posed serious threats to food safety. Salmonella organisms, which produce food poisoning, had begun to crop up more and more frequently. Aflatoxin, one of a large family of poisonous, mold-produced mycotoxins, appeared. Antibiotics used in feeds to help animals resist disease and grow more rapidly had become a source of concern, because research showed that some microorganisms not only developed resistance to antibiotics, but transferred that resistance to other micoorganisms.

Many food marketing centers in the Nation's major cities were operating with outmoded, unsanitary facilities.

An abundant food supply was widely available, but too many of our people, partly for lack of knowledge about nutrition, did not have good diets.

Farmers were still not producing crops and livestock with enough efficiency. They needed help in lowering their costs and in choosing profitable production alternatives. Such animal diseases as hog cholera and brucellosis were causing heavy losses to livestock producers.

Not only pesticides but other materials threatened to contaminate the environment. Industrial pollution was causing damage to agriculture. Forest trees and some crops were already suffering from smog poisoning.

Animal wastes from concentrated cattle and poultry operations were beginning to pose a relatively new and increasingly serious hazard to the environment. Such wastes could move into rivers and streams, or seep into the soil and contaminate underground water supplies.

Sedimentation, an old problem, began to assume alarming proportions, damaging soils and waterways. Increased construction without protection for freshly dug ground surfaces was causing tons of valuable fertile topsoil to be washed off the land. Sediment deposits were spoiling lakes, streams, reservoirs, and ponds.

Research was needed to increase the productivity of timber on private lands, especially on farms, and increase outlets and markets for poor-quality and little-used species of timber. More basic research was needed on noncommodity uses of forest lands: To provide recreation, to increase watershed yields, and to help maintain the quality of the environment.

Increasing world travel and trade made more difficult the task of protecting crops, livestock, and stored foods against pests and diseases. Quarantine inspectors were finding it hard to keep up with the growing influx of agricultural materials that had to be checked.

On the world front, no one knew the exact dimensions of the world-wide food situation and the possibilities for most effective help.

Cooperative Extension activities, which carry research from the lab to the users, faced many complicated problems of adjustment.

Farmers had difficulty keeping up with the latest research results. They urgently needed more specialized help.

Small and low-income farmers especially required localized and personalized assistance.

The Department's agricultural library was confined to long outgrown facilities. We faced not only the job of maintaining and building upon the world's largest collection of agricultural literature, but also of constructing facilities to house it and permit continued growth.

A NEW THRUST

The foregoing illustrates some of the major problems which engaged agricultural research and Extension during the past 8 years. To deal with them more effectively the science and education activities of the Department assumed a basic new thrust. No longer concerned almost entirely with production and utilization research, though these continue to be vital, the USDA research agencies and State agricultural experiment stations are now putting a large and increasing share of their resources into:

Preventing environmental pollution by pesticides and other materials;
protecting our natural resources;
determining the causes of rural poverty;
creating new opportunities for income in rural areas so that through these means and others we may achieve the rural/urban balance essential to the future well-being of our country;
providing technical assistance to developing countries, and
providing low cost foods rich in protetin for food-short populations both at home and around the world.

To coordinate and make more effective the Department's work in these areas we established the position of Director of Science and Education and set up an Economic Research Service. We took the initiative in establishing the Federal Committee on Pest Control. We created a

new Cooperative Forestry Research Program with institutional grants to support research and graduate training at schools of forestry. Graduate enrollments at the Master's degree level in 60 participating institutions jumped from 988 in 1964 to 1,330 in 1967, and at the Doctoral level from 443 to 785 .

In both research and Extension, the Department works closely with the land-grant colleges and universities. We strengthened the role of the cooperating State agricultural experiment stations by establishing a separate agency, the Cooperative State Research Service, to administer the Federal funds going to these institutions.

Legislation was enacted to help the States finance new facilities for agricultural experiment stations to renovate and remodel laboratories and research buildings. Critically needed modern facilities for research on emerging problems in pesticides, nutrition, animal and plant disease control, and environmental pollution have been provided as a result of this program.

A National Program of Research for Agriculture was developed jointly by research leaders at the State agricultural experiment stations and forestry schools and USDA. Thirty-three task forces composed of Federal and State scientists currently are carrying forward the detailed research planning.

In 1962, the Department's library was designated the National Agricultural Library. With the world's largest collection devoted to agriculture and related sciences, it serves the entire agricultural and scientific community of the Nation. A new 15-story building to house the library has just been completed at the Agricultural Research Center, Beltsville, Md. This badly needed facility will enable personnel to increase library services still further.

PROGRESS

So many specific advances have been made through research since 1961 that it is difficult to select the most representative achievements.

Increasing Efficiency

About 80 new crop varieties with a wide range of desirable characteristics are produced every year through cooperative Federal-State research.

Among the exciting new crops are high protein corn, high-yielding and pest-resistant wheat and rice, and a new oilseed crop called crambe.

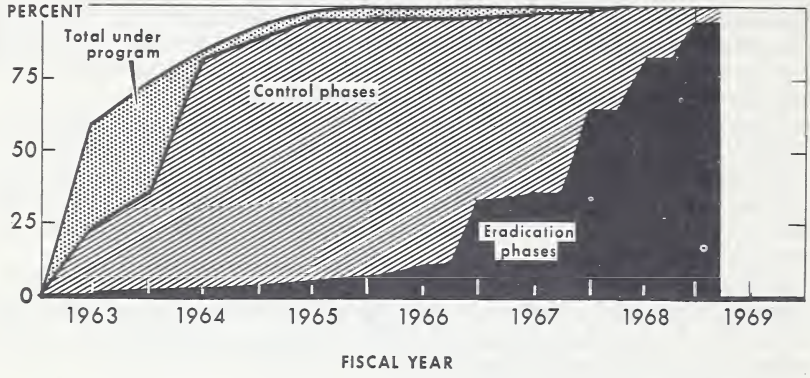
Mechanical harvesters have been developed for tomatoes, blueberries, cherries, dates, olives, and some citrus fruit. Still being tested is a mechanized feeding system that can handle 80 dairy cows and requires only 30 minutes a day of a dairyman's time to set it in motion.

In raising production efficiency, attention was focused on research to help farmers make better business decisions and reduce production costs.

A cooperative State-Federal hog cholera eradication program was initiated in 1962. Ten States have now achieved a "hog cholera free" status. And we estimate that the entire country will reach this stage by 1972. The program has reduced annual hog cholera losses from $57 million before 1962 to about $30 million today.

Hog Cholera Eradication

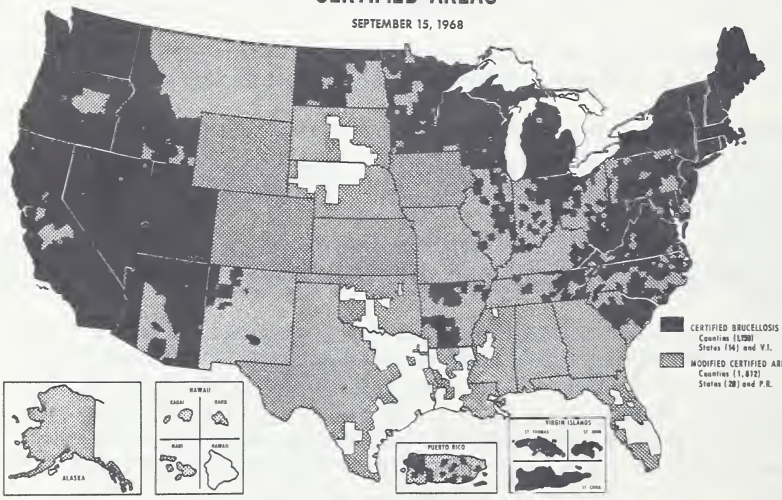
SWINE POPULATION: % UNDER PROGRAM



U.S. DEPARTMENT OF AGRICULTURE ANIMAL HEALTH DIVISION AGRICULTURAL RESEARCH SERVICE

BRUCELLOSIS ERADICATION PROGRAM CERTIFIED AREAS

SEPTEMBER 15, 1968



U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL RESEARCH SERVICE

A similar cooperative campaign is being conducted against brucellosis in cattle. More than 94 percent of the Nation's counties are now either brucellosis-free or have reduced the incidence of infections to less than 1 percent of the cattle tested.

Lessening the Hazards of Pest Control

We have increased our efforts to replace some of the chemical pesticides now in use with other less hazardous means of pest control.

The screwworm, which once cost livestock producers $100 million a year in losses, is being controlled by sexually sterilizing and releasing large numbers of male flies to prevent reproduction of new generations of the pests.

Variations of this nonchemical technique are being tested for their effectiveness in controlling other insect pests. Other control techniques include the use of sex attractants, sound, light, and radiant energy to lure the insects into traps. Some of these unique methods, used alone or in combination, are already beginning to replace or restrict the use of pesticides in many situations.

We initiated a monitoring program which has since become nationwide to check the effects of continued pesticide use on the air, soils, water, fish, and wildlife. Despite the increasing use of pesticides, results so far indicate that there is no significant buildup of chemicals from normal agricultural use.

Revised pesticide labeling requirements went into effect in 1966, providing greater safety for consumers.

Preventing Other Forms of Pollution

Several approaches were developed to handle livestock wastes. These include use of lagoons, incinerators, and waste-destroying bacteria. We hope that further developments will solve this problem.

We are helping to meet the problems of sedimentation through increased basic and applied research—basic studies to find the underlying causes of soil movement, and applied research to find ways to hold the soil in place.

Control of slash burning and various processing operations has helped reduce air and water pollution in or near forested areas.

Protecting Natural Resources

Much effort has been concentrated on research to assure wise management of soil, water, and forest resources.

We have stressed studies on alternative uses of land, appraisal of soil resources, and the relationships between soil, plants, water, and nutrients. Work has been intensified on the technology of watershed conservation and management, efficient drainage and irrigation systems and facilities, efficient use of water for agriculture, and timber and range management.

Improved procedures for protecting and utilizing timber have helped preserve woodland resources for the future. These procedures include improved methods of forest fire prevention and control and an analysis of different methods of timber harvesting and their effects on watershed runoff and supply.

An infrared scanning technique—developed by USDA scientists for detecting forest fires from the air, night or day, through clouds and smoke—will be in operation in fiscal 1969.

Other forestry research has led to the creation of a southern pine plywood industry that now employs more than 6,000 workers and produces about 3 billion square feet of plywood a year for new homes.

New Products

Research has provided consumers with an expanding array of new or improved foods and other items. These include "instant" potato and sweetpotato flakes, citrus crystals, and a raisin paste that extends the shelf like of cookies and pastries.

More serviceable, washable leathers have been developed. Softer, washable, wrinkle-free wools, and cottons with a great variety of specialized characteristics have come on the market.

Other industrial and commercial products include insulating plastic foams, rubber reinforcing agents, frozen bread doughs, weather and pollution resistant outdoor cotton fabrics, and quick-drying paints.

A variety of low-cost homes have been designed especially for low-income families and elderly people.

Protecting Food Quality and Wholesomeness

Five years ago, many of the Nation's major food marketing centers were still operating with antiquated, unsanitary facilities. We have helped cities plan food distribution centers in every part of the country.

The largest of these centers is in New York City. The first section of a new $200 million center has been in operation for more than a year. Annual savings for the entire development are projected at $30 to $40 million.

Helping Improve Diets

A food consumption survey published in 1968 gave us new knowledge of the Nation's eating habits.

We emphasized studies to help us understand nutritional needs and how to motivate people to choose proper diets.

Hundreds of USDA scientists and technicians have worked with people in developing countries to adapt our research knowledge to local conditions. U.S. scientists assisted in adapting hybrid corn to the climate and soils of East Africa and dwarf, heavy-yielding wheats to countries in Asia and Latin America.

A recently completed economic study on world grain production, consumption, and trade is being used to guide policy decisions on food aid, other economic assistance programs, domestic farm programs, and expansion of our commercial exports.

Numerous high-protein, high-energy foods have been developed for use by people in the less privileged countries. CSM, a flour-like prodduct of corn meal, soy flour, and milk solids, is a mainstay of the Food for Freedom program.

Marketing specialists, working with other Federal agencies, have made a real breakthrough in developing "containerization"—the packaging of farm products for overseas shipment for most efficient handling and maintenance of production quality. Within a few years,

this type of service may account for 80 percent of all goods moving overseas.

A Major Breakthrough

An ARS–Cornell University research team scored a major scientific breakthrough in 1965 by determining the structure of the nucleic acid alanine. The following year, the structure of a second nucleic acid was determined. These discoveries open new hope for control of genetic defects and diseases, including one line of attack on cancer. Dr. Robert W. Holley, leader of the nucleic acid research team, shared in the Nobel Prize for medicine and physiology in 1968 for this work.

Extension's Role

Extension provides the all-important link between research and practice. A research achievement which remains in the laboratory is sterile, or almost so. Extension has broadened its educational efforts on every level, reaching out not only to farmers and rural communities but increasingly into urban communities and foreign countries also. Thus, our research achievements are being carried more rapidly than ever before to those who can and should use them.

SCIENCE SERVING MAN IN THE FUTURE

Despite the immense progress of agricultural research which has helped make possible a gain of about 55 percent in output per man-hour of farm work since 1960, and which now enables one U.S. farm worker to supply the food and fiber needs of about 45 persons compared with 26 in 1960, our scientists believe we are still only at the beginning of research achievement.

Research advances already made could, if applied, change agricultural production and living conditions throughout much of the world. But new advances are being made at an accelerating pace.

Agricultural resources surveys will in the future be made by remote sensing methods from spacecraft. This will enable us to survey land, water, and timber in regions formerly inaccessible. It will also make possible surveys of the condition of growing crops and of the effects of drought and disease on crops and livestock.

When these surveys are regularly carried out, the term "world agricuture" will take on new meaning. To a far greater degree than ever before we will be able to think in terms of world agriculture.

Already more than 250 specific applications of remote sensing have been identified as having important economic potential. Most of these applications could be put into effect within 20 years. Among other advantages, remote sensing makes possible an inventory of world resources; the monitoring of world food output; classification and mapping of world soils; and the identification of new plant species and varieties.

But all these things must be planned, funded, and financed.

On another plane we now know how to make tremendous improvements in the nutrition value of foods. We know how to add protein, vitamins, and minerals to stable foods, many of which are now greatly deficient in these requirements. This will have an important bearing

Appropriations for research and education, fiscal years 1960–69
[Thousands of dollars]

Agency	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Research:										
Agricultural Research Service	$79, 291	$97, 846	$87, 511	$98, 209	$127, 028	$136, 409	$147, 056	$155, 522	$155, 269	$148, 618
Cooperative State Research Service	32, 014	33, 065	36, 069	38, 121	42, 930	50, 696	55, 227	58, 776	63, 113	59, 105
Farmer Cooperative Service	753	790	763	764	797	799	749	783	828	873
Economic Research Service	7, 556	8, 097	8, 532	8, 901	9, 242	11, 222	11, 782	12, 421	12, 789	12, 789
Statistical Reporting Service	374	449	449	447	550	655	560	577	595	614
National Agricultural Library	619	708	765	877	1, 422	1, 319	6, 988	1, 966	2, 087	2, 634
Forest Service	14, 518	18, 747	26, 335	25, 518	25, 888	35, 461	37, 372	38, 459	41, 643	38, 866
Total, research	135, 125	159, 702	160, 424	172, 837	207, 857	236, 561	259, 734	268, 504	276, 324	263, 499
Education:										
Extension Service	64, 056	67, 359	70, 723	75, 258	80, 084	85, 857	89, 137	92, 813	96, 602	96, 988
Total, Research and Education	199, 181	227, 061	231, 147	248, 095	287, 941	322, 418	348, 871	361, 317	372, 926	360, 487
Regulatory and Control	49, 756	53, 920	58, 025	59, 451	64, 336	71, 169	75, 457	80, 564	85, 802	84, 116
Grand total	248, 937	280, 981	289, 172	307, 546	352, 277	393, 587	424, 328	441, 881	458, 728	444, 603

on human, animal, and poultry nutrition, and consequently on world food supplies.

During the next 10 years, programs of research and extension can tell us a great deal about community resource development, rural-urban balance, quality of living, and environmental protection.

Three Major Studies

Three major studies involving Federal-State relations in research and Extension form the basis for future research programs.

One, carried out by the Department and the States, produced *A National Program of Research for Agriculture;* this points the way for coordinated research planning in the Department and in State agricultural experiment stations through fiscal year 1977. Tying research to national goals and projected needs, this study has formed the basis for all our research planning since 1965.

The second study recommends ways of establishing a more efficient working liaison between the Department and each State experiment station, as well as among the stations themselves. It suggests methods of giving advisory committees a more effective role in policymaking.

A third study—on future programs for the Cooperative Extension Service—indicates that while its services to commercial agriculture need to remain strong, Extension's priorities for the future will emphasize "people" programs. These include increased educational and organizational activities involving young people, community resource development, low-income rural people, and various minority groups. It spells out Extension's expanding role in local communities and the universities and suggests organizational arrangements for carrying out that role.

These three studies represent the "meeting of minds" of hundreds of able scientists, educators, and administrators. They provide workable blueprints for future activities.

Expanded Programs Needed

During the next 10 years, programs of research and Extension will need continued great emphasis.

The biological efficiency of plant and animal production needs to be continually improved; so also the quality and variety of farm and forest products. Efficiency in the marketing system—including farmer bargaining power—should be increased. Commercial agriculture requires tools for increasing its competence in projecting results of alternative adjustments. Research and Extension should help farmers develop better financing plans, and increase their ability to deal with rising labor costs.

Scientists are putting the computer to work to speed up, expand, and coordinate research. The Current Research Information System (CRIS), an automated method for storing management and scientific information on magnetic tape, is being developed for research projects of USDA and the States. The National Agricultural Library hopes to automate its system fully for storing and retrieving information. By 1970, it should have a complete record of scientific documentation on machine-readable tape, compatible with the automated records of the other two national libraries—Congress and Medicine. The National Agricultural Library will utilize facsimile transmission of documents

and other rapid-exchange methods. It is also experimenting with telephone transmission of published information and is using chartered aircraft in its "flying books" project.

With old and new knowledge put to use, we can visualize a world where no one need go hungry or ill-clothed or ill-housed. We can conserve the resources upon which men of future generations must depend. We can improve the quality of life. We can bring to rural America the opportunity to fully achieve its potential. We can bring a greater share of the Nation's prosperity to the farmers who so richly deserve it. We can acquire for American agriculture an even more substantial share in the already important dollar market abroad. We can bring to all our people a higher standard of living.

In international development, research should seek new ways to expand foreign markets and accelerate agricultural growth in developing countries. Increasing international trade and travel demand that we continue our cooperative efforts with other countries—such as Mexico—to protect animal health through regulatory programs, and that we streamline our agricultural quarantine procedures.

Environmental protection requires emphatic research efforts on alternative ways to conserve water, soil, natural beauty, and wildlife; provide outdoor recreation; control insects, pests, and diseases without the use of chemicals; protect plants and animals from air pollution; alleviate soil, air, and water pollution by agricultural practices; and protect food products from harmful contamination.

Particular attention is needed on ways of handling livestock wastes from huge concentrations of dairy cattle, from beef cattle feedlots, and from poultry and swine operations.

Science and education must explore ways of helping rural Americans adjust to the impact of technological innovations. With fewer people needed to produce our food supply, ways will have to be found to absorb, gainfully and profitably, those who are displaced from farms. Programs must emphasize jobs for rural people and training to equip them for these jobs.

Research will be needed to improve community institutions and services in rural areas, and to advance the social and economic development of minority groups.

And, in one of the important areas science and education must find ways to get people to eat a proper diet. Better techniques are needed to define and measure hunger and malnutrition.

Addendum

ACHIEVEMENTS—1968

New Crop Varieties

Newly introduced lines of corn, wheat, oats, cotton, spinach, strawberries, and sugarbeets are highly resistant to insects and plant diseases.

Higher yielding varieties of barley and head lettuce were developed, as was a sorghum variety that resists bending or breaking of stalks.

Alamo, a new potato variety, is highly adaptable for canned soups, potato chips, and other heat-processed or dehydrated products.

New fruit and nut varieties include the Southland, Bountiful, and Chief lines of muscadine grapes; an early-ripening blueberry line called Vesta; a very productive soft-shell almond line; and two early maturing pecan lines called Shawnee and Caddo.

Tift 23D, a high-quality dwarf line of pearl millet, produces higher weight gains in cattle than does normal, tall millet. The new line has been released to plant breeders in this country and in India.

Prospects look favorable for developing new soybean varieties that resist fungus disease.

Mechanized Farming

With a new self-propelled machine that picks apples, peaches, pears, and plums, pickers can harvest five times as much fruit as with conventional equipment.

A blueberry harvester developed from a prototype designed by ARS and Michigan State engineers harvests tons of berries that were previously left unpicked. This harvester cuts labor costs to less than 1 cent per pound.

A new corn shelling unit that prevents kernel damage during harvesting was tested on the Iowa corn crop. Over half of the commercial corn crop is now shelled in the field by mechanical shellers that damage up to 30 percent of the kernels.

"Punch planting" machines that punch holes in the soil and drop a seed in each hole are now being designed. This work moved forward after tests conducted by ARS in fiscal 1968 indicated that "punch planted" vegetables can thrive, even in heavily crusted soils.

Food Processing and Testing

A new laboratory technique could cut 2 days from the time now required to test pasteurized, dried whole egg for *Salmonella*, an organism that causes food poisoning. This new testing method should produce economies in laboratory space and labor and should also prevent shipping delays.

ARS scientists presented American olive growers with a new process that produces Spanish-style olives of uniform quality and virtually eliminates spoilage. The olives are inoculated with a pure culture of lactic acid-producing bacteria.

Another new process provides citrus products—whether frozen, instant, canned, or otherwise manufactured—with a fresh fruit flavor and aroma.

Still another processing method makes dehydrated mushroom pieces with excellent flavor and a light, attractive color. This should help domestic cultivated mushrooms to compete more effectively with canned imports.

And newly tested adjustments in processing potato chips will aid producers in controlling the oil content, thereby assuring better quality.

New Foods, New Products

Tablets made from orange and grapefruit crystals can serve as a nutritious confection or as a lightweight, compact means for supplying nutrients to campers, troops in the field, and astronauts.

Two delicious new dairy drinks contain whey, a low-cost, highly nutritive byproduct of cheese manufacture. One, a chocolate or fruit-flavored drink, contains whey and cream; the other, a citrus-flavored drink, contains whey and soy flour.

An experimental finish makes cotton fabrics resistant to stains caused by salad dressings, meat fats, and vegetable oils. But the treated fabric is not water resistant, and allows detergents to penetrate during laundering and to remove any soil or stains that do get into the fabric.

New heat-resistant plastics from pine gum can be used in such varied products as electric wire insulation and rocket nose cones. These plastics have performed well at temperatures up to 750° F., and improvements may help them to tolerate even higher temperatures.

Animal Production Research

New cattle feeds with protein substitutes are being formulated. Steers fed on one diet containing purified soy protein were compared with other steers given a similar diet in which urea, an inexpensive protein substitute, replaced the soy. Despite differences in nitrogen metabolism, the steers on urea gradually adapted to that diet.

Tests indicate that dairy farmers can get 15 to 20 percent more milk production by placing a cow's head and neck in an enclosure cooled to 60° F. than they can by housing the animal in an 85° F. barn. This procedure may be an economical alternative to air-conditioning an entire barn.

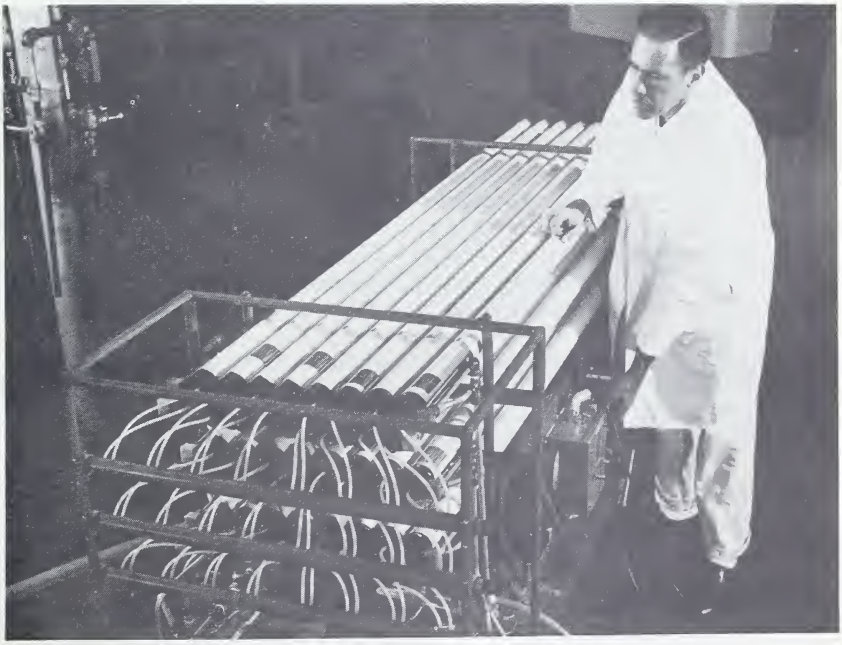
Sow milk has been found to contain two distinct types of protein variations in both the casein (curd) and the whey. This finding should facilitate genetics studies, help identify animals, and improve breeding practices.

Animal and Poultry Diseases

Ten States—Alaska, Idaho, Michigan, Montana, Nevada, North Dakota, Oregon, Utah, Washington, and Wyoming—are free of hog cholera, and the entire country should be free of the disease by 1972. Forty States, plus Puerto Rico, are in the final two phases of the four-phase eradication program.

A similar campaign against brucellosis in cattle has freed 14 States and the Virgin Islands of this disease. More than 94 percent of the

Eight orange juice disks like the one in the left hand equal the orange in the right.



Machine used in whey research.

Nation's counties are now either brucellosis-free or have reduced the incidence of infections to less than 1 percent of the cattle tested.

The Southwest's worst screwworm outbreak in 6 years began in fiscal 1968. The "sterile male" eradication technique is being used against this livestock parasite, and some 200 million sterile screwworm flies have been released each week throughout the infested areas. When these sterile males mate with native female flies, the resulting eggs do not hatch.

Twelve USDA veterinarians were sent to help contain the foot-and-mouth outbreaks in Great Britain during fiscal 1968. All of these men are experienced in animal disease eradication.

A more sensitive test developed to study the structure of foot-and-mouth disease virus showed that a preparation of pure virus can be separated into two substrains.

An experimental dip containing chlorhexidine and tung oil proved effective against microbes similar to those that cause mastitis in dairy cows.

The virus that causes Marek's disease, a cancerlike affliction of poultry, was grown in the laboratory for the first time and examined under an electon microscope. Marek's disease usually afflicts young chickens and costs poultrymen millions of dollars.

Diagnostic Alert, a nationwide program for eradicating accidentally imported animal diseases, was put into effect against Dutch duck plague. Blood samples taken from domestic and wild ducks in the major domestic duck-producing regions failed to detect the infection anywhere except in New York, where it first appeared. A vaccine is being prepared.

Regulatory Activities

ARS plant quarantine inspectors and cooperating customs officials examined thousands of trains, ships, and airplanes, and million of passenger automobiles. Pieces of baggage inspected in fiscal 1968 totaled 68,499,098, including 40,024,237 pieces of luggage and 28,474,861 hand-carried packages.

An accelerated inspection system was tested at the John F. Kennedy International Airport in New York and at the airport in San Antonio, Tex. Passengers arriving from a foreign country were inspected and cleared by a single officer acting for USDA, the U.S. Customs Service, U.S. Public Health Service, and U.S. Immigration and Naturalization Service. In New York, the average time required by an individual passenger to clear Federal inspection was reduced from 45 to less than 15 minutes.

Animal quarantine inspectors checked 935,191 animals—livestock, pets, and zoo animals—and rejected 51,854 for health reasons. In similar inspections of poultry, 2,727,927 birds were checked and 651 rejected.

Safer Pest Controls

In fiscal 1968, USDA registered 4,666 new pesticide products for sale across State lines. Registrations of another 10,961 products were amended.

A total of 12,929 serials, or 9 billion doses, of veterinary biologics—biological products used to diagnose and prevent animal diseases—

was produced in the United States. USDA inspected 7,787 serials, and found that 98 percent of them were safe, pure, and potent.

In an extensive campaign promoting the safe use of pesticides, the Extension Service distributed hundreds of thousands of information packets to scientists, biology teachers, and students. Training conferences, schools, and workshops were also conducted, including 15 regional schools for some 4,000 commercial pesticide applicators, farmers, and others.

The "sterile male" insect eradication technique was successfully used against the codling moth. In one Washington State apple orchard, a 99 percent reduction in moth population was achieved without harming beneficial insects in the same area.

During laboratory tests on bark beetles in California, a sterilizing chemical (tepa) reduced egg hatch by up to 97 percent.

A continuing worldwide search for natural enemies of insect pests uncovered two kinds of wasps, neither of them hazardous to humans, that may prove beneficial in this country:

One, a small wasp from India, is being used against Rhodesgrass scale, an insect pest of pastures in the Gulf Coast States and of lawns and golf courses in Arizona and California.

The other wasp, collected in France, attacks the European elm bark beetle that carries Dutch elm disease. This wasp is proving effective against beetle larvae in Ohio, Michigan, and Missouri.

In cage tests, ARS scientists achieved 99 percent control of bollworms with predator lacewing larva, or aphid lions. This level of control is equivalent to the best obtainable with conventional insecticides.

A microscopic worm, the DD 136 nematode, was found to carry bacteria that kill several major insect pests. This nematode was tested successfully against borers on peach trees, boll weevil larvae in cotton plant buds, codling moths in apple orchards, and houseflies in poultry houses.

Two new insect sex attractants were synthesized: one for the black carpet beetle which infests wool materials, cereals, and other foods; and the second for the fall armyworm, a destructive pest of corn and sorghum.

Tests using experimental lures for Japanese beetles are now in their third year on Nantucket Island off the Massachusetts coast.

Three new microbial diseases that kill cabbage loopers, almond moths, and Indian meal moths were discovered. The conditions under which the disease organisms live are now being examined.

Artificial light was used in the laboratory to trick codling moths, tobacco budworms, pink bollworms, and other insects into breaking a natural resting state called diapause. If this could be duplicated in the field, it could force insects out of diapause and into a hostile environment, or into diapause to prevent them from ravaging crops.

Weed Control

Tests with herbicides carried on a floating material indicate that this approach can eradicate several kinds of aquatic weeds. These weeds can make waterways unusable for navigation, recreation, irrigation, or livestock watering.

Other tests showed that 2,4–D, a herbicide, kills water hyacinth and drastically cuts the loss of surface water caused by this aquatic weed.

This researcher is checking pesticides.

This adult Marisa snail feeds on aquatic weeds.

Two kinds of South American fresh water snails were found to feed voraciously on submerged aquatic weeds in waterways in this country. One kind also eats the eggs of other snails that carry diseases of man.

In experimenting with ultra low volume (ULV) insecticide applications, the Alabama Agricultural Experiment Station found that ULV treatments are just as effective as—and sometimes more effective than—conventional applications for controlling cotton insects.

Surveys of Insect Populations

ARS surveys of insect pest populations showed increases in numbers of corn rootworms in the Western States and of grasshoppers on rangelands in the West and Midwest. A massive buildup of gypsy moths, which attack hardwoods, pine, and fir trees, was detected in the Northeast; and the cereal leaf beetle, a pest of oats, wheat, and barley, was found for the first time in West Virginia and Kentucky.

A more encouraging survey showed that boll weevils had become less numerous in Texas, Louisiana, Mississippi, Tennessee, North Carolina, and South Carolina.

Forest Research

A new study of the loblolly-shortleaf, a type of pine tree found in Georgia, indicates that woodland owners could boost their annual incomes by increasing forestry activities. The study showed returns of up to 30 percent from investments in timber stand improvement practices.

Research shows that sawdust mixed with feed grain makes a satisfactory roughage ration for ruminants. This could portend an increasingly important role for wood in livestock feeding—as roughage and as a source of carbohydrate. Tests of various methods for making wood digestible show that ammonia and alkali treatments roughly double the amount of digestible material in aspen sawdust.

The Forest Products Laboratory in Madison, Wis., developed a "Nu-Frame" house construction system that could provide builders with savings estimated at about 10 percent.

Fifteen years of research resulted in publication during fiscal 1968 of a Forest Service Handbook entitled "Conversion of Chaparral Areas to Grasslands, Techniques Used in California." Use of management techniques explained in the handbook could help prevent fires spawned in brushfields, a significant danger to life and property in the Southwest.

A new technique was perfected for manipulation of pollination and selective cone collection. This should permit Forest Service to purchase about one-sixth of the Intermountain Region's annual requirement of rust-resistant seed nearly 18 years earlier than anticipated.

Soil and Water Research

Range interseeders (tillage tools that renovate ranges and boost forage yields) contributed to further progress in reestablishing high-producing native grasses in the tough clay soils of the Northern Great Plains.

Level bench systems, similar to terrace farming in other countries but level in all directions, doubled the yields of alfalfa and bromegrass grown on slopes in the Northern Great Plains.

A sensor-controlled irrigation system that turns itself on and off automatically was tested successfully.

A new "subsoil paving" technique conserves water for crop growth, thereby increasing crop yields. This is accomplished with a specially designed deep plow fitted with nozzles that spray a thin barrier of asphalt about 2 feet deep in the soil. This asphalt barrier allows penetration of moisture and air for root growth, but diminishes loss of rainfall. It has increased yields of cucumbers, cabbage, rice, and sugarcane.

Water for livestock and wildlife, as well as protection against forest fires, is provided by a new rain trap that costs about $400 to install. It can be landscaped so as not to detract from scenic beauty.

Chlorinated sewage effluent from a treatment plant has been used by the Pennsylvania Agricultural Experiment Station for about 4 years to irrigate the same farm and forest land. The soil's capacity for renovating the water remains excellent.

Other tests demonstrated that water can be reused by food processing plants, thus reducing overall consumption and facilitating pollution control.

A new statistical publication provides a means of analyzing rainfall and runoff figures to determine what cropping and other uses should be established on a given watershed. This makes it possible to improve water quality and to reduce sedimentation and erosion.

Basic data is being compiled on how soil particles are moved by rainfall and what cultivation methods are needed to keep soil from washing away.

To help the Water Resource Council in making the first comprehensive national assessment of water supplies and requirements, USDA furnished projections of farmland use, water needed for irrigation and livestock, land drainage needs, and measures required to preserve the natural environment.

An interdepartmental study of the natural resources of the Upper Mississippi River Basin indicates intense competition for land and water by the year 2000. Public investment in water resource development, particularly flood control and drainage, will be needed to improve the productivity of the Basin's resources.

Foreign Development

A specially constructed, 40-foot prototype van that can be shipped by highway, rail, ocean, or air was developed for use in advanced research on containerized shipping. This shipping technique already delivers fresh fruits and vegetables from American farms to consumers in Europe, South America, the Far East, and other parts of the world.

ARS scientists working in Kenya assisted in developing a high-yielding corn hybrid, that is highly adaptable to the climate there. This hybrid has helped to make that country self-sufficient in corn production.

ARS scientists have helped raise yields of protein-rich pulse crops (beans, peas, lentils) in India and Iran by as much as 40 percent over traditional varieties. For South Asian countries, researchers are attempting to develop disease and insect resistant pulse varieties and to teach better cultivation methods.

A joint USDA–AID bean-breeding project is concerned with developing an insect and disease resistant variety of shiny black beans

for El Salvador. This crop is presently the main source of human protein there.

USDA marketing specialists are providing Brazilians with advice on how to improve food marketing services and facilities.

In Nigeria, an ARS plant pathologist developed a method for selecting strong-rooted maize plants adaptable to that country's loose sandy soil.

As part of an effort to develop high-protein, high-energy foods for people in developing countries, ARS scientists formulated a five-step process for making soy flour with inexpensive ready-at-hand equipment. This flour is used in beverages, soups, and various cooked dishes.

Also developed was a simple, uniform process for making an Indonesian soybean food, tempeh, with cereal grains as well as soybeans. This nutritious food may be baked, deep fried for snacks, or used in soups.

Shipments of CSM, a flourlike product that is a mainstay of the Food for Freedom program, increased in fiscal 1968. About 670 million pounds of this corn-soy-milk food blend have now been shipped to more than 100 developing countries. CSM is used in soups, beverages, gruels, and porridges.

Public Law 480 Research Findings

Israeli scientists found that khapra beetle larvae are particularly attracted by certain light waves and intensities. The beetle is repelled by high relative humidity.

Another Israeli study demonstrated that certain tranquilizing drugs can be used to regulate milk production in laboratory animals. This may help increase milk production in dairy herds, increase milk flow in animals nursing their young, and stop milk production when desirable.

Research in England and Scotland on scrapie, a fatal disease of the central nervous system in sheep, may provide leads for studying similar neurological diseases in man. These studies indicate that the scrapie agent is usually resistant to heat, that it survives cycles of rapid thawing and freezing, and that it maintains its virulence after being kept in 10 percent formalin for over 2 years.

Rural America

Studies conducted by an Economic Research Service unit formed in 1965 to study the problems and potentials of rural communities made further progress in fiscal 1968. Solutions to some problems pinpointed by these studies will apparently require concerted action. Among the findings:

> Firms looking for industrial sites are more concerned with markets, transportation, and availability of labor than with taxes.
>
> Employed rural workers between 20 and 64 years of age are used only 85 percent as effectively as comparable workers in the United States as a whole. This indicates 2.2 million man-years of economically unutilized labor that could be available to employers who can pay wage rates equivalent to those paid in the economy as a whole.
>
> Rural counties had 18 percent of the Nation's people, but only 10 percent of the physicians.

Population increases projected within a generation for the "least poor" counties are about 9 and 14 percent respectively for whites and nonwhites. In the "poorest" counties, these projected figures increase to approximately 40 percent for whites and more than 100 percent for nonwhites.

A joint USDA–U.S. Department of Labor report on *Rural Manpower Needs and Supply* indicates that about 7.5 million more nonfarm jobs will be required by 1980 to absorb the increasing rural labor force. Only about 5 million of these jobs are projected on the basis of past trends.

Half of the migration from rural and predominantly rural counties in the 1950's was accounted for by four rural minority groups: Negroes, Mexican-Americans, Southern Appalachian Coalfield whites, and American Indians. These groups are generally characterized by high birth rates, low incomes, and poor education. They comprised not more than 20 percent of the rural population at the beginning of the decade, but their combined population in rural areas had dropped only 9 percent by the end of the decade, and their average age remained very young. This indicates further outmovement in the future.

In more than 200 counties where fertility is comparatively low or moderate, this persistent heavy outmigration has led to a natural decrease in population. This has occurred because there are too few young couples of childbearing age left to offset the deaths among a much larger number of older people.

Nearly 90 percent of the counties thus affected are completely or predominantly rural. This condition is expected to spread to about 300 additional counties between 1965 and 1970.

DIMENSIONS FOR LIVING

"The Agriculture Department . . . is precisely the people's department, in which they feel more directly concerned than in any other."

ABRAHAM LINCOLN

The Department of Agriculture was created, as Lincoln said, to be a "people's department" concerned with the production and use of all things grown upon the land.

Being concerned with growing and marketing of these products of the land is but means to an end, and the Department of Agriculture as a public agency is far more concerned with the end.

The end is simply stated: To make possible the nutritional well-being of all Americans.

In a Nation with the greatest food production capacity on the face of the earth—and with the research, knowledge, and resources to bring the people the most abundant, the safest, and the least expensive food supply in the world—one might assume that our goal would have long since been realized.

Yet, as we all know, it has not. There is still hunger amidst this plenty. There are still large gaps in our knowledge of nutrition and the educational efforts in nutrition have only begun. Food-borne illness still can—and does—occur in this country. We must never rest easy until this is corrected. It is unconscionable to hold back production to protect the farmer's income unless we are doing everything in our power to reach the goal of an adequate, nutritious diet for every American.

We have, however, made great progress in recent years. We have made progress in feeding hungry people. And even more important, we have made progress in achieving a consensus among our people: that we have the power and the means to close the nutrition gap for *all* Americans, and that because we can, we must.

We have made progress, too, in improving the safety and wholesomeness of our food supply—and in achieving a consensus that Americans should not be subjected to food-borne disease, regardless of where the foods are produced or whether or not they are shipped across State lines.

Progress has not been as great in the area of nutrition education, the pressing need for which only now has come to public awareness. But the groundwork has been laid for a truly comprehensive, nationwide program of nutrition education, with the major effort devoted to those low-income areas and families who need it most.

FIGHTING DOMESTIC MALNUTRITION

During the past 8 years, we have achieved dramatic changes in direction in all these areas.

The food programs—begun during the depression years of the 1930's—have changed since 1961 from the passive offering of a few

surplus food items to State and local governments willing to distribute them to a series of wide-ranging, active, aggressive programs aimed at eliminating hunger.

Food Stamps Provide Purchasing Power

The Food Stamp Program, begun on a pilot basis by Executive Order of the Secretary in 1961, was made a permanent program by Act of Congress in 1964. Today it is giving some 2½ million needy people added food purchasing power—enabling them to buy at local grocery stores the foods they want and need.

In 1967, we moved to improve this program further. Food stamp purchase requirements were reduced for the very poor—so that each now can get about $12 worth of food stamps for a token payment of 50 cents and families of six or more may pay even less, no more than $3 a month. And through program aides, members of low-income families, we are now actively seeking out those persons and families in need of Food Stamps and helping them use the program.

Food Distribution Program Redoubled

President Kennedy's first Executive Order in 1961 started the change in direction and in the concept of the food distribution program. The order doubled the number of commodities—then only five items, worth $2.20 per person per month—and it doubled the amount of food available.

Now 22 donated foods are offered—worth nearly $12 per person per month. More, these foods provide nearly all nutritive requirements for an adequate diet, as recommended by the National Research Council.

Just as important, we no longer believe it enough to make food available to State and local governments to distribute if they choose. We now not only actively encourage local governments to operate food programs—we also provide financial assistance, when this is necessary, and in a number of cases (about 50 counties who have refused to institute a program) we are ourselves operating the distribution program through Federal personnel. As a result, food programs are now available in all of the 1,000 lowest income counties in the country.

A recent addition to the food distribution program is one designed to meet the special dietary needs of infants, pre-school-age children, pregnant women and nursing mothers. For these individuals, supplementary food packages designed to overcome nutritional deficiencies are being made available in all areas, even those which have neither Food Stamp or Family Food Assistance Programs.

New Concept of Child Feeding Programs

During the decade of the 1960's we have also dramatically changed our concept of child feeding programs from the narrow view of providing school lunches to one of providing opportunity for all children—poor and nonpoor, in and out of school—to have a nutritious diet.

The only child feeding program available in 1960 was the National School Lunch Program, which left major gaps uncovered. Major shortcomings included the fact that many children who needed free or reduced-price lunches were not getting them—and many schools serv-

ing low-income areas, both rural and urban, did not have the means to start or operate school lunch programs.

In addition, we found that too many children were arriving at school hungry each day because they had no breakfast, a shortcoming that even the lunch program did not help. Further, we had no way to help children outside the school systems—in day-care centers, summer camps, and similar situations.

A series of legislative and administrative actions were taken to correct these deficiencies:

Authority and funding were granted to assist schools in providing more free and reduced price lunches. Children served such lunches in 1960 totalled 1.25 million. By 1968 the number had doubled, reaching 2.5 million. This was due in part to a 1962 amendment to the National School Lunch Act authorizing additional funds to needy-area schools.

Family food assistance

	Fiscal year 1960	Fiscal year 1968	Fiscal year 1969 estimate
Commodity Distribution:			
People served (thousands)	3, 500	3, 500	3, 600
Foods distributed (number)	5	16	22
Retail value per person per month	$2. 20	$8. 98	$12. 70
Nutritive value of foods offered*	23–47	70–130	80–150
Counties in program	1, 200	1, 224	1, 378
Counties helped (number)			
USDA operated		22	49
USDA funded		105	186

	Fiscal year 1964	Fiscal year 1968	Fiscal year 1969 estimate
Food Stamps (started in May 1961):			
People served (thousands)	392	2, 488	3, 600
Areas in program	43	1, 026	1, 437
Bonus per person per month	$6. 51	$6. 53	$7. 00
Federal cost (millions)	$30	$185	$280

*Percent of Minimum Dietary Requirements.

	Fiscal year 1960	Fiscal year 1968	Fiscal year 1969 estimate
National School Lunch Program:			
Children served (thousands)	12, 839	18, 600	19, 000
Children getting free or reduced-price lunch (thousands)	1, 280	2, 300	2, 400
Federal cost-cash and donated foods (millions)	$226	$430	$469
Special Assistance to Needy Area Schools (1962 amendment, first funded 1965):			
Children served (thousands)		200	1, 440
Federal cost (millions)		$5	$39
School Breakfast (started pilot basis January 1967):			
Children served (thousands)		160	392
Federal cost (millions)		$2. 1	$10. 6
Non-School Food Service (1968 amendment, first appropriation fiscal year 1969):			
Children served (thousands)			250
Federal cost (millions)			$10

The Child Nutrition Act of 1966 provided authority for: a school breakfast program; assistance to help schools acquire food preparation and service equipment; and assistance to help pay State administrative costs in carrying out new programs for poor children and make the best use of their child feeding resources.

Authority was provided in 1968 legislation to establish food service programs for children in day-care centers, settlement houses, summer camps, and other nonprofit groups.

Operation Metropolitan was launched to improve school lunch programs in impacted areas of large cities.

We have come to understand that not all—or perhaps even most—malnutrition in this country is caused by low income. Many people, even those in relatively high income groups, do not appear to associate food with good health. To them, nutrition, or the importance of a good well-balanced diet, is a primitive art—and hardly a science at all.

Good Nutrition Partly Educational

The need is obvious for a vigorous, nationwide program of nutrition education to reach all people—young and old, rich and poor—in the cities and in the suburbs and in the rural areas. Just as obviously, the need is greatest and most urgent among the low-income, low-education-level groups.

The groundwork for attacking this problem has been laid. Under the direction of the Federal-State Cooperative Extension Service, nutrition aides, individuals from low-income families and neighborhoods, are being hired and trained to work with their neighbors and other low-income families.

During this fiscal year, we plan to employ nearly 4,000 aides to work with about 200,000 low-income families in both rural and urban areas. These aides will be trained and directed by some 400 Extension Service nutritionists and home economists.

The program will be conducted in all States, but concentrated to begin with in the urban and rural areas where large numbers of the poor live. Results will be carefully measured and evaluated—so that in the months ahead we will have a sound basis for expanding the program to reach greater numbers of those who can use nutrition education.

Assuring Food "Goodness"

The Department of Agriculture pioneered in pure food laws and programs. More than 60 years ago we began the inspection for wholesomeness of meats and meat products sold in interstate commerce—and since 1957 we have been carrying out a similar program for poultry products. But as we progressed into the 1960's it became evident that these programs were not enough. Passage of the Wholesome Meat Act and the Wholesome Poultry Act, during the past 2 years, makes possible within a short time the assurance of wholesomeness and proper labeling of *all* meat and poultry furnished the American public, whether shipped interstate or intrastate.

Similarly, we have made progress in tightening and improving voluntary inspection programs which help to assure the safety of other foods, chiefly dairy, fruit and vegetable, and egg products—and in providing new and improved quality standards and grades for a wide spectrum of food and farm products.

CLOSING THE GAP

In short, we have made a good start toward closing the gaps in our food and nutrition programs—and we know what still needs to be done. Some 480 counties do not now intend to provide a family food assistance program, and there are inequities in the Food Stamp Program which must be corrected. Between 2 to 3 million persons are now denied food assistance because of these gaps.

Nearly 9 million children today attend schools where neither lunches or breakfasts are served; and, further, if all schools did serve them, between 2 and 3 million children still would be unable to afford them.

The answer will be found in the *quantity* of our effort, and the *quality* of our techniques.

Quantity means the extension of the food assistance programs to provide each family and every child with the *opportunity* for a better diet, the *funding* of these programs to insure they will be available, and the sustained, intelligent, *public support* that is vital to this effort.

Quality means the tools to insure we know specifically who is malnourished, where they live, why they are malnourished and that we can describe the nature of malnourishment. Quality also means an effective technique of nutrition education to equip the malnourished with the knowledge and capacity to solve this problem themselves.

Closing the Quantity Gap

The first step in achieving the quantity level necessary to end hunger is to provide a Food Stamp Program in every county.

In order to do this, legislative authority is needed to:

1. Establish national minimum eligibility standards.

2. Provide financial assistance to State and local governments for program administration where absolutely necessary.
3. Authorize the Secretary to administer the program directly where the local government is not prepared to do so.

The second step will be to provide funding necessary to:

1. Operate the Food Stamp Program in every county and independent city.
2. Lower purchase requirements to not more than 25 percent of the recipient's income and increase bonus levels to enable each person in the program to purchase a fully adequate diet. At present, *we have closed only two-thirds of the gap.*
3. Provide full coverage of the school lunch and breakfast programs in all schools, with the assurance of free or reduced price lunches for all children who need them.
   With an estimated 7 million children eligible for this assistance, the annual funding level for an adequate child nutrition program will be *over* $1 billion. We are now spending less than half a billion dollars.

Thus, the third quantity step necessary to ending hunger is an expansion in public support for this objective so the necessary funds will be appropriated. Immediate action in two areas can lay the foundation for this support:

1. Broader consultation and participation by public groups in policy planning and program development, including the use of nonprofit organizations in operating local food assistance programs. This would include the establishment of a National Food Program Advisory Board to consult regularly on policy matters with program officials, an annual National Workshop where State and local officials can participate with public groups in planning the operation of programs, and a series of regional conferences on the mechanics of implementing the food assistance programs.
2. Establishment of an effective National organization to organize and coordinate support for public and private programs to end hunger. Failure in this session of Congress to obtain adequate funds for Food Stamps, let alone the inability to carry through the drive to extend the Food Stamp Program without limitations, demonstrates the weakness of organized public support at crucial periods. It is not sufficient to rationalize this failure by suggesting Congress shift responsibility for food assistance to more "sympathetic" committees. The failure rests on the inability to sustain a high level of public support. This can only be done with a well financed national organization, supported fully by all individuals and groups dedicated to ending hunger. This organization must establish itself as a responsible body, fully equipped with the facts and recognized as an independent, informed voice of the Nation's conscience.

Closing the Quality Gap

We still lack the capacity to identify the malnourished—who they are, where they live, what causes their malnourishment, and how are they malnourished. Thus, the first quality step is to develop procedures to identify the real causes of malnutrition—and the real food needs among the malnourished.

We need to study and understand the attitude of people toward food assistance programs, their use of these assistance opportunities—and we need to study and evaluate the most effective methods of providing both food and other aids to improve the level of living of the poor.

The second quality step is increased and improved program evaluation which may be used promptly and fully to modify or discard old programs, to initiate new ones, and to assure that programs are meeting recognized needs.

The third quality step *is to continue* and expand education and training designed to assist low-income groups. Using the poor as program aides provides one avenue which should be extended and enlarged within the food programs. New career opportunities should also be developed for the poor in programs guarding the wholesomeness and sanitation of the Nation's food supply.

And certainly the programs concerning the wholesomeness of food will require expanded and continuing emphasis. The recent action to enlarge the scope of meat and poultry inspection is a major step forward, but much remains to be done.

We believe that taking these steps will be the minimum necessary in the years ahead. They will cost more money than has previously been expended for these purposes—but surely wiping out malnutrition in the United States will do far more than anything else we could accomplish with the same money to achieve the high goals set for us in our Constitution:

> ". . . to form a more perfect Union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity."

Addendum

ACHIEVEMENTS—1968

If every American citizen is to have the opportunity of enjoying a full nutritious diet of wholesome foods, we must as a Nation, produce the food to provide this diet and make it available at reasonable prices for those who can afford to pay. For the poor we must employ extraordinary measures to assure them a share in American food abundance. And for those whose diets are inadequate not from lack of income but from lack of knowledge or incentive, we must carry on effective nutrition education.

COST OF U.S. FOOD RELATIVELY LOW

Food has long been one of the Nation's best bargains. American consumers today spend a smaller proportion of their income for food than ever before—and they get a higher quality diet with more built-in maid service than any people in history. We spent only 17 percent of our disposable income for food in 1968—compared with 20 percent in 1960.

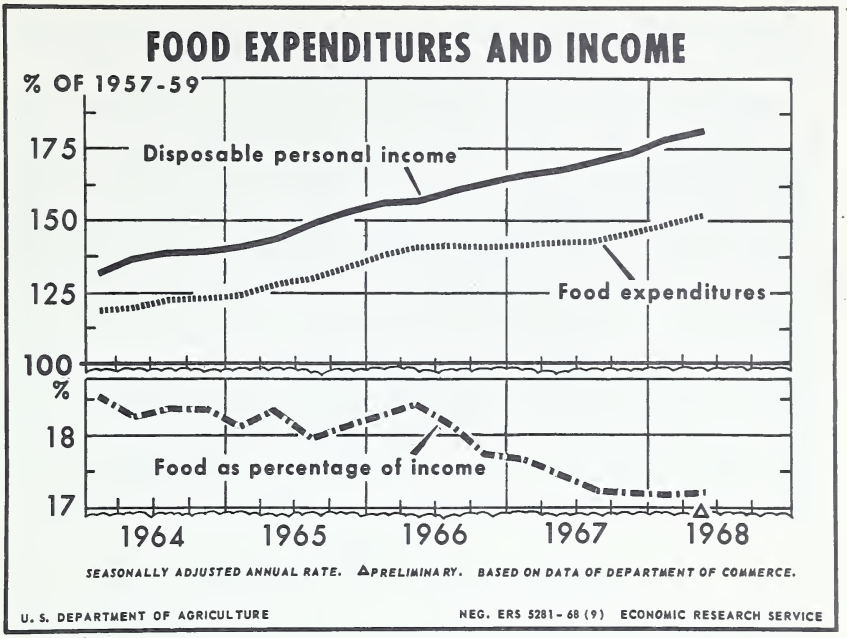
> An hour of factory labor in the U.S. in 1968 bought 2.6 pounds of round steak, compared with 2.1 pounds in 1960; or 9.9 quarts of fresh milk delivered to the door, instead of 8.7 quarts in 1960. It bought 2 dozen more eggs, or 2½ more loaves of bread, or an extra half-pound of pork chops.

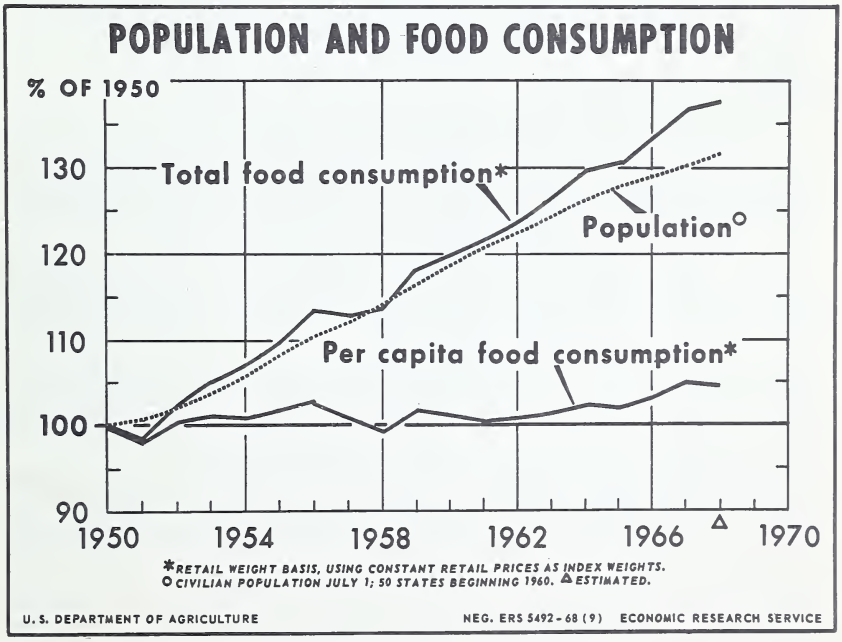
Consumer spending for food totaled nearly $101 billion in 1968. If we had spent as large a share of our income for food as in 1960, our 1968 food bill would have been $17 billion higher.

Food expenditures in 1968 were about 6 percent more than a year earlier. In part this was because the average American ate a little more food than in 1967. His appetite was larger for beef, pork, broilers, cheese, noncitrus fruits, vegetables, potatoes, soft drinks, and confectionery products. It was lower for veal, lamb, eggs, turkey, some dairy products, citrus fruit, apples, and wheat flour.

Higher prices, however, accounted for over half of the year's increase in food expenditures. Prices of food for home use averaged around 3 percent higher than in 1967 while prices for food away-from-home were up about 5 percent. The average price for all food rose 3½ percent for the year. Consumers paid more for fruits, vegetables, meats, poultry, eggs, dairy products, and soft drinks. Prices of coffee, potatoes, fats and oils, cereal and bakery products, and fishery products remained about the same as in 1967 or declined.

To keep food prices in perspective, changes in other costs of living need to be kept in mind. As of September 1968, food prices for home use had increased 16 percent over 1960. This compares with a rise of 19 percent for all consumer items. Prices of some goods and services have climbed much more sharply. Medical care was up 35 percent, public transportation 30 percent, footwear 25 percent, and reading and recreation 21 percent.


FOOD EXPENDITURES AND INCOME
% OF 1957-59
175
150
125
100
Disposable personal income
Food expenditures
%
18
17
Food as percentage of income
1964
1965
1966
1967
1968
SEASONALLY ADJUSTED ANNUAL RATE. △PRELIMINARY. BASED ON DATA OF DEPARTMENT OF COMMERCE.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5281-68 (9) ECONOMIC RESEARCH SERVICE


POPULATION AND FOOD CONSUMPTION
% OF 1950
130
120
110
100
90
Total food consumption*
Population°
Per capita food consumption*
1950
1954
1958
1962
1966
1970
△
*RETAIL WEIGHT BASIS, USING CONSTANT RETAIL PRICES AS INDEX WEIGHTS.
°CIVILIAN POPULATION JULY 1; 50 STATES BEGINNING 1960. △ESTIMATED.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5492-68 (9) ECONOMIC RESEARCH SERVICE

Moreover, only about 39 cents out of our food dollar goes for food as such. The other 61 cents pays the cost of bringing us our food the way we want to have it, in other words, the cost of marketing.

This is not to minimize the rises that have taken place in food costs in recent years. Part of this is accounted for by a 3 percent rise in per capita consumption of food between 1960 and 1968. Part is due to our larger appetites for such relatively expensive foods as beef, poultry, cheese, processed fruits and vegetables, and vegtable oils. Consumers felt affluent enough to indulge themselves a little. From 1960 to 1968, beef consumption rose nearly 26 percent to about 107 pounds per person. Chicken consumption went up 32 percent, and turkey 30 percent.

Finally, to keep food prices in perspective we need to relate food costs to income. Disposable personal income rose 68 percent between 1960 and 1968. As a result, even though food prices increased—mostly because of higher marketing costs—and the average American consumer upgraded his diet so that he was eating not only more food but more expensive kinds of food, the proportion of disposable income spent for this better diet declined from 20 percent to 17 percent.

SHARING FOOD ABUNDANCE

Major gains were made during fiscal 1968 in our continuing efforts to shrink the nutrition gap. Substantial improvements in our food assistance programs enabled many Americans to attain considerably better diets—among them the elderly, the disabled, the unemployed, mothers left to rear children alone, and children in schools and institutions. We particularly stressed reaching the poorest-of-the-poor and the children in the most needy families.

Family Food Assistance

We initiated a concerted drive to establish food assistance programs in all of the Nation's lowest income counties to raise the number and nutritional quality of donated foods, to increase the buying power of individuals receiving food stamps, and to reach more low income families through an intensified education and outreach effort.

Under the Commodity Distribution Program, for the first time, we offered to help low-income counties without food programs pay the local administrative costs of food donations. By November 1968, with this help, 186 counties began programs.

In another 49 low-income counties—where local officials, despite our repeated efforts to gain their cooperation, refused to operate either a donated food or a food stamp program—we began operating donated food programs independently of the local governments.

We developed a new monthly per person "package" of donated foods. It contains 22 foods weighing about 37 pounds and worth more than $12 at retail. Six foods were added to the package: canned vegetables, corn sirup, fruit juices, canned chickens, scrambled egg mix, and evaporated milk. The total package provides 95 percent or more of the recommended daily allowances of the eight basic nutrients—including about 80 percent of the daily caloric need. And, because we have enriched various products, some of them are superior in nutritive value to many of the same products available in retail stores.

New labels were designed to make the food containers more attractive and to provide easy-to-understand directions and recipes, thus enabling recipients to make better use of their foods.

In the Food Stamp Program, we reduced the minimum purchase requirement for the poorest-of-the-poor from $2 a month per person to 50 cents, with a maximum of $3 per family regardless of size. Further, we cut in half the purchase requirement for new participants in their first month. This was in recognition of the difficulty low-income people have in putting enough cash together to buy food stamps in the same month when they must pay past grocery bills.

We hired program aides from low-income neighborhoods to work with low-income families, explaining the program and creating a communication link between these families and local welfare workers.

As a result of these actions, and an intensified outreach effort conducted through community action agencies, local Technical Action Panels and other public and private groups, participation in the Food Stamp Program increased sharply.

Thus, by the fall of 1968, 6 million needy Americans in about 2,500 of the Nation's 3,126 counties and independent cities were being reached by food assistance programs.

Child Feeding Programs

The dramatic changes of recent years in our child feeding programs also began to pay substantial dividends. Our theory is that you can't teach a hungry child; that when children eat better they learn better; and when they learn better the entire community and Nation benefit.

Through amendments to the National School Lunch Act and the Child Nutrition Act, we can now accelerate our efforts to improve nutrition among children. The newest instrument was obtained by legislation enacted during the spring of 1968. It authorized food services for needy preschoolers and children in child-care activities outside of school.

Other funds and donated foods made it possible to expand food services to children.

Nineteen million children in over 72,000 schools received lunches under the National School Lunch Program. About 2.5 million children in the greatest need received lunches free or at reduced prices.

Thousands of other children in economically distressed areas received lunches as a result of a $5 million appropriation for special assistance to help start and maintain lunch programs in needy schools that could not otherwise operate programs.

About 165,000 children from needy families, and those who must travel long distances from home to school received breakfast at school to help them start the day right.

Children in over 94,000 schools, child-care centers, summer camps, and orphanages consumed over 3 billion half-pints of milk at reduced cost under the Special Milk Program. Children in especially needy circumstances received their milk free.

Food for Institutions

Children and adults in orphanages, child-care centers, homes for the aging, and hospitals—as well as public and private schools—received additional benefit from donated foods that add substance and variety

Canned grape juice adds a nice touch to a school lunch.

These children are enjoying hot, well-balanced meal at school.

to their diets. During 1968, we provided over 148 million pounds of food, worth some $23 million, to such institutions.

Plentiful Foods Program

Food shopping columns, newspaper ads, radio-TV bulletins, and monthly roundups of the current "plentiful foods" all give consumers reliable hints on good food buys. The source for much of this information is our Plentiful Foods Program.

Each month our economists and marketing specialists, after examining the statistical estimates of food production and supplies for the next several weeks, list the foods most likely to be in heavier than usual supply and therefore "good buys" 6 weeks hence. With the help of mass media and the vast food industry the word gets to those who can use it—millions of food buyers from all walks of life.

In this way we encourage consumption of agricultural products that face marketing difficulties.

The Plentiful Foods list is increasingly useful to teachers, welfare workers, and nutrition specialists in their educational work with underprivileged families in all parts of the country.

OTHER FOOD SERVICES

The people of the United States have the safest, cleanest, highest-quality food in the world—largely because of USDA inspection and standards and grading programs.

Meat and Poultry Inspection

Two of the most significant advancements in over 50 years in the field of consumer protection took place in fiscal 1968. Congress enacted the Wholesome Meat Act of 1967 and the Wholesome Poultry Products Act of 1968. These laws will eventually assure consumers that high standards of wholesomeness are uniformly applied to all of the Nation's meat and poultry supply.

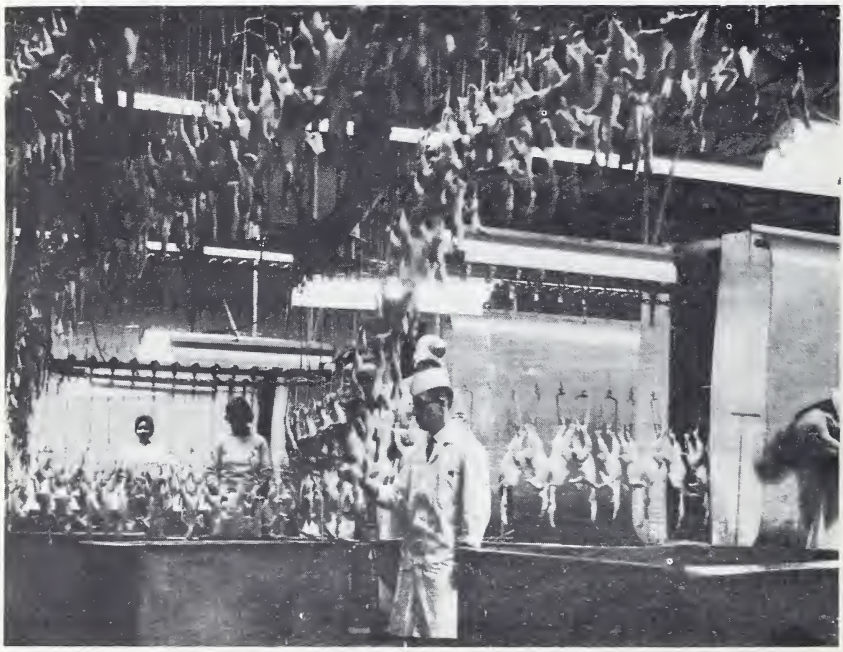
Both laws improved our ability to protect consumers against unwholesome, adulterated, and deceptively labeled meat and poultry products moving in interstate commerce. More importantly, however, the laws require States to develop and maintain inspection programs, for products moving in intrastate commerce, that will at least equal the protection afforded by Federal inspection.

To implement this requirement, a system of Federal-State cooperative agreements was authorized whereby USDA would provide financial, technical, and laboratory assistance to States in developing their programs. By September 1968, we had completed such cooperative agreements under the Wholesome Meat Act with over half of the States.

To increase the efficiency of administering these vital consumer protection measures, we merged our meat and poultry inspection services into a single food inspection component. Besides providing a more coordinated effort, this merger will result in an estimated initial cost reduction of $1 million annually.

We also stepped up our review of foreign meat plants that ship products to the United States, to insure that imported meat products

Meat inspectors checking sides of beef.



Inspecting poultry at a processing plant.

are indeed up to par with the strict wholesomeness and labeling requirements for domestically produced meats.

In our day-to-day activities, we inspected approximately 76.9 billion pounds of meat and meat products in fiscal 1968, and another 19.7 billion pounds of poultry products. More than 66,000 labels for meat and poultry products were also reviewed, to insure that each label accurately describes the contents of the package. More than 1,000 labels were rejected because they didn't meet Federal standards.

Grading and Standardization

Official USDA grades measure the quality of agricultural products for producers, processors, retailers, and consumers.

Graders in our Consumer and Marketing Service and in cooperating State Departments of Agriculture certified the quality of 509 billion pounds of food and fiber during fiscal 1968. This included 21 billion pounds of meat and poultry; 62 billion pounds of fresh and processed fruits and vegetables; 3.5 billion pounds of dairy products; 8.5 billion pounds of cotton; and 406 billion pounds of grain.

Other significant innovations since 1961 include the establishment of a yield grading system for beef carcasses to provide a valuable, added measurement of true carcass value, pasteurization of all egg products inspected by USDA to eliminate Salmonella contamination, a new program to inspect and grade instant nonfat dry milk for consumer use to insure its wholesomeness, and micronaire measurement of the maturity of cotton to provide a more reliable measurement of its spinning quality.

Another part of our voluntary grading program provides continuous inspection service during the processing of fruits, vegetables, egg products, and dairy products. This quality control-type service—paid for by the processors who request it—gives added assurance of the quality and wholesomeness of certain processed foods.

Under this service, in fiscal 1968, we inspected 90 percent of the Nation's production of liquid and frozen eggs, 75 percent of the dried eggs, 64 percent of the butter, 46 percent of the nonfat dry milk, and nearly 8 billion pounds of canned and frozen fruits and vegetables.

Obviously, these grades and grading programs are valuable only if they are based on nationally recognized standards of quality that realistically reflect today's marketing needs. Out of some 560 Federal standards now in use and covering most foods, we developed 144 new or revised standards to meet more effectively the needs of farmers, marketers, and consumers.

For example, the U.S. Grain Standards Act was revised in 1968 to provide for more rapid and economical movement of grain products by eliminating requirements for unnecessary inspection.

Just as official USDA standards aid the American marketing system, so, too, international standards can increase marketing efficiency in the world community. In 1968, our standardization specialists played an important role in the development of 13 world-wide standards for food products by the Codex Alimentarius Commission—an international body sponsored by the World Health Organization and the Food and Agriculture Organization.

IMPROVING FAMILY LIVING

Many of our agencies offer "family living" services.

An important part of Extension's work, for example, is to improve family living by helping consumers to make more rational purchasing decisions. Nearly 3,000 county Extension offices in the country are, in effect, consumer education centers. Their assistance is available to the public generally, but the young marrieds, adolescents, disadvantaged, and senior citizens are special "targets."

A "Calling Consumers" event was initiated in 1966 to establish in the public mind that the county agent's office is truly a Consumer Education Center.

One State Extension Service logged more than 1,100 office visits, more than 800 telephone calls, and distributed nearly 5,000 publications in one week as a direct result of its latest Calling Consumers observance. Another distributed more than 480,000 publications during Calling Consumers Week. A third reported that efforts would be continued on an accelerated basis throughout the year to keep people alert to the consumer information available through Extension. A fourth reported that increased interest in consumer information continued long after the close of the formal observance.

More States now select a statewide theme and symbol to take advantage of Statewide publicity. Governors and local officials proclaim Calling Consumers Week. Businesses and industries, in local communities, alert consumers to the valuable aids and information materials on consumer buying that are available at the county Extension offices.

In 1968 we estimate that 75 percent of Extension's total resources devoted to home economics was used to serve low-income people.

Special efforts are being made to help recipients of donated foods and participants in the Food Stamp Plan use these foods and stamps to improve nutrition and also to make better food buys.

We stressed programs to reach young homemakers of all income levels. Studies show that young homemakers, especially, need help to improve family nutrition, consumer buying, and home management practices.

Extension now employs several hundred non-professional program assistants to give poor families the intensive help they need. Besides training, employing, and supervising these aides, Extension workers have trained thousands of professionals and aides of other agencies who serve the poor, and have trained about an equal number of unpaid volunteers.

We also publish especially prepared leaflets for low-income people with limited reading ability.

Twenty-eight such publications came off the press in fiscal 1968, bringing the total of these publications to 78.

Many low-income people cannot read or understand the traditional Extension leaflet which is written for high school level. The new low-income publications are written at the fourth or fifth grade reading level. The type is big, illustrations are simple, and the equipment and utensils shown are the same as those one would expect very low-income people to have in their homes.

The State Extension Services have purchased and distributed about 3.8 million of these publications. Other agencies and groups have

Teaching low income families how to make the food dollar stretch.

Using this knowledge at the food store.

purchased about 150,000 from the U.S. Government Printing Office. All are on sale through the Government Printing Office.

Nutrition Programs

Food scientists are concentrating much effort on the dietary problems of Americans. Our food economists conduct periodic studies of the nation's eating habits. A survey conducted in the spring of 1965 indicated that only half of U.S. households had "good" diets; one-fifth had "poor" diets. Calcium, ascorbic acid, and vitamin A are the ingredients most often missing in poor diets. We are planning consumer education programs to correct these deficiencies.

Although most American children are fairly well fed, if not overfed, a recent study at the Minnesota Agricultural Experiment Station shows their diets may be low in vitamins A and C, both important to good health. Detailed eating habits of 139 fourth graders, 9 to 11 years old, were studied. The study shows that food attitudes of mother and child, family income, and amount of parent education all play a part in determining the intake of the two vitamins. Childrens' reaction to high vitamin A foods, such as broccoli, squash, and spinach, frequently reflected the mother's attitude. In families where the mother had some knowledge of nutrition and where the father had a higher average income and education level, children were likely to have a satisfactory vitamin C intake.

A total of 152 girls and 169 boys, ages 7 to 10 years, were studied over a 7-year period by scientists at the Utah Agricultural Experiment Station. The girls had a significantly higher serum cholesterol than the boys. They also showed a higher incidence of obesity but the boys were more persistently obese. Girls who were persistently overweight had higher serum cholesterol, but the body build of boys was not so correlated with cholesterol level. Family patterns of cholesterol level were evident. This research indicates that nutrient intake practices which control serum cholesterol need to be adopted at an early age.

Our scientists prepared a guide for tailoring small but nutritious meals to preschool children from low-income families. This was done to assist the Head Start Program of the Office of Economic Opportunity.

During a recent 12-month period Extension home economists in 1,700 counties where the food aid programs were operating devoted nearly 20,000 days giving direct help to recipients and participants. This is in addition to the help provided by program aides and volunteers. Compiled estimates indicate that nearly 4½ million people received this Extension assistance in the 12 months.

Aids to Youth

A National Outlook Conference on Rural Youth added new impetus to State and local groups in focusing attention on the needs of this special audience.

With Federal Extension Service coordinating the Conference, five other Federal agencies and groups joined USDA in co-sponsoring the event.

More than 600 key State officials and leaders of national youth-serving agencies participated along with 75 youth. The aim of the Conference was to help assure for rural youth opportunities similar to those available to other Americans.

4-H Programs

Many innovations have been devised and tested during recent years to increase 4–H memberships. These include using nonprofessional aides, developing special materials, and adapting programs to the needs and resources of nonfarm youth. In 1968, 4–H enrollment exceeded 3¼ million, about 1 million more than in 1961.

More emphasis has been placed on the scientific principles underlying subject matter. Members enrolled in food-nutrition, for example, learned not only how to plan and prepare meals with the proper nutrients but also why a variety of nutrients is needed. Those in crop and livestock production projects learned not only how to increase yield and quality, but also why the practices recommended produced the desired results.

Special effort has been devoted to attracting youth from disadvantaged families through personal guidance and encouragement. Youth of economically handicapped families were given opportunities to go to camp free or at very low cost.

> 4–H experience paid off in Navy "boot camp" for Walter Mason, a Negro youth from Buffalo, New York. He was one of the first youths enrolled in the Buffalo 4–H School Dropout and Youth Employment Program.
>
> Mason was a good 4–H member. He served as a leader for younger boys while he took advanced project work in the Junior Chefs. Following this, he was employed for a few months as part-time program assistant while continuing to serve as volunteer leader for three 4–H groups.
>
> Mason credits his experience in "4–H Foods" as a factor in his selection to attend Navy cooking school and he attributes his selection as company Educational Petty Officer to his 4–H leadership experience.

In 1968, boys and girls in more than 400 public housing units in 200 cities participated in 4–H type programs.

About 75 youngsters in a Milwaukee housing project learned about food and nutrition, clothing, crafts, and beautification.

They acquired basic skills in meal planning, food preparation, and clothing construction. They were encouraged to try new foods and practice table manners. They learned to share and to accept responsibility. A program assistant conducted the classes through adult volunteer leaders. Extension workers planned the programs and supervised the assistant.

The Department of Public Welfare provided a meeting place and arranged for equipment. Donations of food and clothing were frequently received from homemaker and church groups.

WE CAN INVENT THE FUTURE

"*We cannot predict the future, but we can invent it.*"

DENNIS GABOR.

The American people have always believed that they can determine their future, and I think nowhere is this more true than among our farmers and ranchers. They are future oriented—waiting for seeding; waiting for rain, for calving, for the crop to grow; waiting for the harvest and then, as winter lies over the land, preparing again to repeat the cycle.

This report has outlined their magnificent record in taking the earth, the sun, and the rain and producing the raw materials of the abundant life. But it has not disclosed the courage, the determination of so many who stand in hail-shattered or drought-killed fields, grimly planning for next year, or those who ride horseback into the blizzard looking for a herd that represents their life's work.

These men and women have a belief that tomorrow will be a brighter and better day—a belief that carries them through hail, storm, and drought—and there is now excellent reason to hope that this brighter day may be at hand. Certainly, agriculture now is far better equipped to play its full role in the domestic and world economies than it was 8 years ago. Building on the progress of these years, we can, if the needed funds, resources, and leadership are forthcoming, realize the kind of future agriculture deserves and the welfare of the Nation requires.

Today agriculture is in transition as never before. It is adapting itself to an era of collapsed time. We see more technological and scientific progress in a year—perhaps even a month—than our ancestors saw in a century.

Ours also is an age of exploding knowledge. The world total of new books and monographs in science and technologies, for example, more than doubled between 1950 and 1965.

Finally, ours is an age of speedy application of research and technology. Not many years ago, putting hybrid corn into use all over the Nation in a little more than a decade was hailed as an amazing achievement. And it was—but today we would consider this slow motion.

It is the challenge of our generation to turn the scientific, technologic, and information explosions to the advantage of the human race—to invent the human future. American agriculture—in transition—has a mighty role to play in meeting this challenge. So also has the Department which it has been my privilege and responsibility to head for the past 8 years.

In that short period, the Department horizon, which had been widening from a focus on the commodities of the fields, has lifted to take in all of rural America, from field to Main Street.

It is true—and it will remain true—that the Department of Agriculture has its roots on the farm, but its branches touch the lives of all, serving more people with more categories of services 24 hours a day and 365 days a year than any other agency of Government. As Abraham Lincoln said, it is truly the people's department.

But far too few Americans realize this.

You can't expect the boy munching the hotdog to recall that its purity depends on USDA meat inspectors.

It wouldn't concern the woman buying stretch slacks that the USDA had a hand in developing the fabric, and in developing the wash and wear cotton and shrink-resistant wool in the garments that she wears.

Nor would the man kept alive by the medical miracle of penicillin necessarily know that USDA scientists found a way to produce penicillin in commercial quantities at reasonable prices.

Millions have skied or camped in a National Forest, or hiked in a Wilderness Area, or swum in a manmade lake, perhaps unaware that the forest and the wilderness were administered and protected by the USDA Forest Service, and that the lake was made possible by a USDA Resources Conservation and Development Project.

These are but a few of the hundreds of Department of Agriculture endeavors that reach beyond the farm, touching the lives of us all—from the school child getting his one good meal a day through the USDA School Lunch Program to the soldier in Vietnam using USDA-developed leech repellant.

The Department today is concerned with farm production and farm income, yes. But it is deeply concerned with the conservation—and wise use—of America's land, water, and timber; with the well-being of people on farms and in small towns. It is concerned with building new, satisfying American communities with modern water and sewer systems, good housing, schools, hospitals, and recreation. It is concerned with eliminating hunger wherever it exists in America and with closing the nutrition gap.

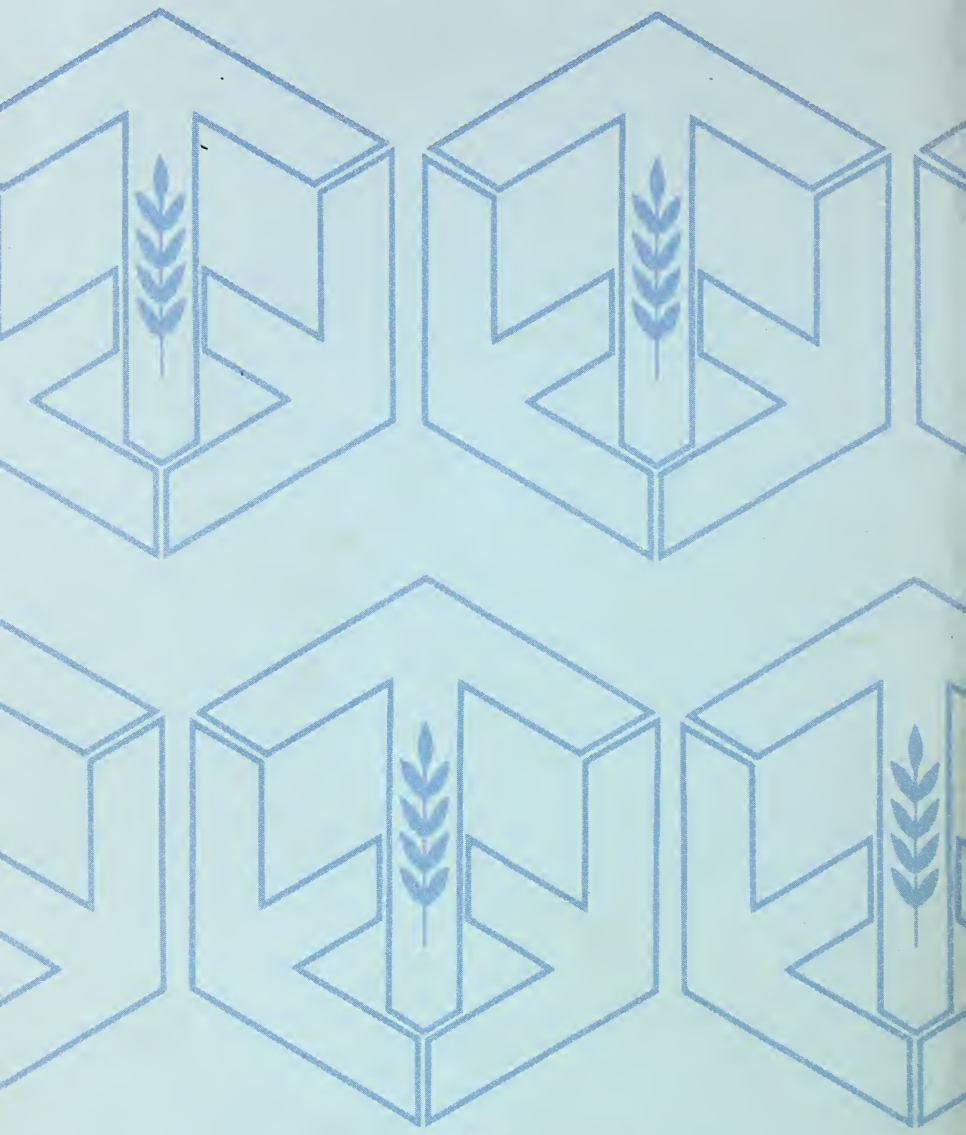
It is concerned with building a vigorous world agriculture and winning the war on hunger so that the world of our children may finally be one of abundance, security, and peace. It is concerned with the development and use of science in the service of all mankind.

As its horizons have grown and as farmers have become fewer in the face of their own increasing productivity, the Department has reduced its worker rolls in service of the farm and increased its rolls in the service of us all.

Today, more than 90 percent of the work of the Department's employees is devoted to services that are not oriented strictly to the farm, but rather to all the people.

This suggests to me, as I close this report, that the name of this great institution of American government should be changed to the Department of Food, Agriculture, and Rural Development, so that the American people may better understand its role as it moves with them in inventing the American future.

I have no pride of authorship—perhaps a better name will be broached—but until a better suggestion emerges, I close this report with that recommendation.



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